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A CASE OF ALLERGIC CUTANEOUS VASCULITIS (ARTERIOLITIS ALLERGICA).

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In a preceding article (Ruiter, 1952*b*) we made an attempt to group together a number of skin disorders which were not classified or were until then unsatisfactorily defined. These disorders had in common that they all showed the clinical picture of a haematogenous disseminated eruption. Their histopathology was essentially the same, although varying in detail in different cases ; it was dominated by inflammatory changes in the cutaneous vessels, showing the histological picture of an allergic inflammation. On the strength of the clinical course (the symmetry of the eruption, the occurrence of repeated disseminations), the histological picture and the " allergic temperament " (Miescher) of the skin lesions, these eruptions were regarded as allergic bacterial dissemination reactions of the skin.* Some further arguments were advanced in favour of this hypothesis. A focal infection was demonstrated in some patients, and lasting recovery was obtained in a very chronic case after the removal of such a focus. In several cases a personal or family history of allergy (asthma, hay-fever) could be obtained.

It appeared that there were numerous clinical manifestations of the group of skin affections mentioned above, and that classification according to their clinical and morphological features was not suitable. This was the reason why in the delimitation of these eruptions our attention was primarily directed to the evaluation of their histopathological basis. In our view this, together with the clinical picture and the clinical course of the eruptions, was sufficiently characteristic to draw up a classification.

We believe that the so-called cutaneous form of periarteritis nodosa also belongs to this group of skin affections which we call " cutaneous allergic

* The possibility that in some cases such reactions may be caused by drugs (for example sulphonamides) probably has to be considered too.

vasculitis." Periarteritis nodosa shows as a characteristic feature that the medium-sized vessels with muscular walls (e.g., those at the level of the cutaneous-subcutaneous border) are affected in particular. When studying cutaneous periarteritis nodosa, however, we noted a syndrome in which the smaller vessels and in particular those of the corium bore the brunt of the allergic inflammatory reaction. The medium-sized vessels of the muscular type showed only insignificant changes or none, in contradistinction to the cutaneous allergic vasculitis of the type usually found in periarteritis nodosa. This was no chance finding, as was proved by the fact that this histopathological lesion appeared to be a constant feature throughout the entire course of these conditions. We concluded that the syndromes concerned (" arteriolitis allergica "), although probably pathogenically closely related to cutaneous periarteritis nodosa, had to be distinguished from this affection. After observing several cases, we tended more and more towards the conviction that this problem was not only of academic interest, but that from a dermatological point of view it had also a practical significance. Apart from differences in the histopathological substrate it appeared that the clinical picture of the syndromes referred to differed correspondingly in many respects from that of typical periarteritis nodosa. Thus the papular elements and teleangiectases observed in some cases might be considered as analogues to the subcutaneous nodes and livedo racemosa-like changes seen in typical cutaneous periarteritis nodosa.

The clinical manifestations of the skin conditions characterized by involvement of the arterioles, particularly of the corium, are even more polymorphous than those observed in cutaneous periarteritis nodosa. Elsewhere we have already given some examples and we shall add here another new clinical picture.

Case Report.

A 51-year-old female, unmarried, developed in April 1952 sensations of fatigue in the legs. She could hardly walk after getting up. At the same time there was itching of the backs of the legs. Sometimes the fingers were swollen, but this swelling usually disappeared after 2 or 3 days. Shortly afterwards a skin eruption developed.

The eruption occurred in attacks, causing a burning rather than an itching sensation. The patient reported that she had otherwise always been in good health.

On examination.—The eruption was mainly localized on the extremities, with only a few scattered lesions over the shoulder blades and abdomen. On the lower legs, both the flexor and the extensor surfaces were affected. Lesions were also observed on the extensor aspects of the toes, outer sides of the ankles and lateral sides of the dorsa of the feet. The lesions were densest on the knees.

A conspicuous feature was the presence of flat papules, firm to the touch and up to 15 mm. in diameter. They were somewhat reminiscent of urticaria, but were too firm and not transient enough for this. Young specimens were of a pink colour and showed a narrow erythematous zone ; the older ones were more brownish-yellow. Some of these flat papules had a pin-point sized vesicle in the centre, while

several of them showed centrally a small haemorrhagic crust (Fig. 1). Besides the large papular elements more or less rounded macules, light bluish-red in colour were seen with a pin-point papule, vesicle or pustule in the centre. The centre consisted also often of a small haemorrhagic crust. The macules were especially dense on the knees (in addition to the papules already described) and they were partly confluent.

Macular lesions were also seen on the lower legs and feet (Fig. 2). Here they sometimes showed a central purpuric spot with a ring-shaped haemorrhage at the periphery (iris-like). More extensive erythematous patches with bizarre brownish-red haemorrhages were present on the calves. Sometimes amidst these areas of erythema there were papular lesions which were easier to feel than to see. At some places they were seen at the border of an erythematous patch and their somewhat urticaria-like aspect was then clearly appreciable. In general the elements were smaller on the arms, where the eruption was most manifest on the elbows. Here the haemorrhagic component was much less marked.

Small, very superficial varicelliform scars were observed between these polymorphous elements.

On examination two days later the condition had quietened down considerably. The big papules had partly regressed or had decreased in size. The macular elements were clearly outlined, especially on the legs, but some of them had completely regressed, leaving residual pigmentation. There were many punctate haemorrhages in areas where no manifest haemorrhages had been visible during the erythematous stage. Flaccid and imperfectly-formed bullae had developed over the more extensive erythematous patches, especially on the calves.

Relapse occurred a week later.

Internal examination.—Chest x-ray : Normal. Blood count : leucocytes 9200 ; polymorphonuclears 69% ; lymphocytes 31%. E.S.R. 11. Haemoglobin 76%.

Urine normal.

Pirquet reaction : human +, bovine +.

X-ray of gall-bladder : normal.

Cutaneous histamine test : ++.

X-ray of teeth : normal.

Otorhinolaryngological examination : Right maxillary antrum opaque. Puncture yielded pus ; direct smears showed many Gram-negative rods (? *Haemophilus influenzae*) which could not be cultured. Culture of throat swab did not yield pyogenic cocci.

Blood culture : negative. Serological reactions for syphilis : negative. Antistreptolysin titre 32U ; streptococcal L-agglutination 0 ; streptococcal O-agglutination 1/40 ; modified Rose test 0.

Histology (papular lesion).—The section showed about its centre an inflammatory area in the corium in which the small vessels of the subpapillary layer and also the more deeply-situated ones showed severe changes (Fig. 3). In these small vessels—mainly arterioles—there was swelling and dissociation of the endothelial cells. The vascular wall showed a severe inflammatory reaction ; it was considerably thickened, with fibrinoid change and fragmentation of collagen, and stained bright red with eosin. The walls of these vessels were infiltrated with numerous polynuclear leucocytes showing marked nuclear degeneration (Fig. 4). Many eosinophils were among them.

The affected vessels and their perivascular inflammatory infiltrate formed a conglomeration of foci, which covered an area extending over the stratum papillare and subpapillare. In the centre the inflammatory process penetrated more deeply in the corium. There were dense infiltrates of inflammatory cells, especially polymorphonuclear leucocytes with much degeneration, but also fibroblasts and histiocytes. Among the leucocytes were many eosinophils. At the margins of the

FIG. 1.

FIG. 2.

FIG. 3.

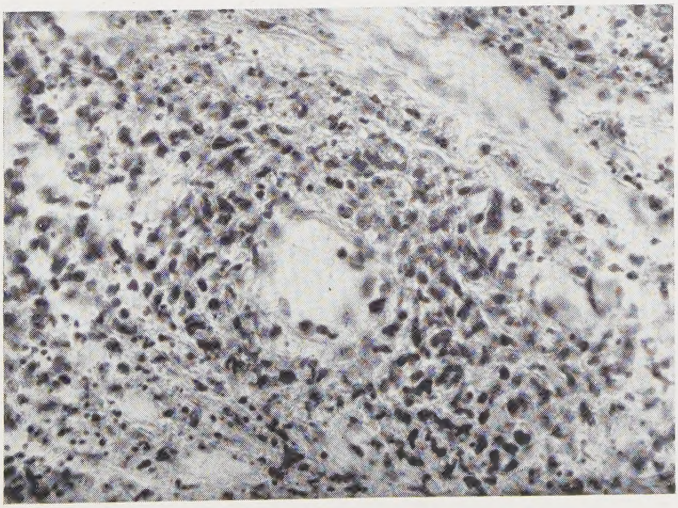

FIG. 4.

inflammatory area also some perivascular infiltration was seen. Small veins in the periphery were dilated and engorged with erythrocytes. The medium-sized vessels in the subcutis were not involved. Scattered cellular infiltrate, embedded in oedematous tissue, was found between the cells of the fat lobules.

The histopathological picture of the skin in this case was dominated by the inflammatory changes in the blood vessels. Bacterial stains were negative. The affected vessels—primarily the arterioles of the corium—and their surrounding coat of inflammatory tissue showed the various characteristics observed in allergic inflammation. For instance, there was swelling and dissociation of the endothelial cells with fibrinoid change of the vascular wall and the adjoining connective tissue. Infiltration with numerous mostly disintegrated polymorphonuclear leucocytes, among them many eosinophils, was a striking feature.

We believe that we have been dealing in this case with an allergic reaction of the skin to a haematogenous dissemination of (bacterial) antigens. This view is supported by the clinical course of the disorder with its repeated relapses, by the localization of the eruption and possibly also by the appearance of some of the skin lesions (the urticarial component in some papules). The chronic purulent sinusitis may have been the primary cause, although in this respect the bacteriological findings (*? H. influenzae*) were somewhat unusual. In our opinion the clinical picture described in this paper has to be classified in the group of cutaneous allergic vasculitis, and in particular as the type which we called arteriolitis allergica cutis. To cases showing severe vascular reactions as observed in our patient the denomination "allergic hyperergic arteriolitis" might be applied.

Strauss *et al.* (1951) noted vascular changes in the dermis, in many respects reminiscent of those we have described. These changes were observed in patients suffering from a syndrome of severe allergy, fever and eosinophilia, accompanied by systemic manifestations (vascular, cardiac, pulmonary, gastro-intestinal, renal and cutaneous). However, in contradistinction to our cases there was a definite tendency to granuloma-formation and the pathological processes were most obvious in the hypoderm. The mortality in this syndrome was high. Changes in the internal organs have so far never been found in our patients, and the course, even though it was protracted, was always benign.

The clinical picture in arteriolitis allergica of the skin shows great variations. Apart from cases reminiscent of papulo-necrotic tuberculides, eruptions of a more polymorphous nature are seen, but all of our cases showed basically similar histological pictures. Cases with a clinical picture reminiscent of Schoenlein's purpura were observed also. Here the histopathological changes were characterized by swelling and dissociation of the endothelium cells, thickening of the vascular walls, and vascular and perivascular infiltrations of

leucocytes, showing marked nuclear degeneration. Fibrinoid swelling and necrosis were absent. We believe, however, that this type must be considered as belonging to the same group of syndromes, with only gradual differences in the allergic inflammatory reaction.

In France a number of skin eruptions have been described which may also prove to belong partly to the cutaneous allergic arteriolitis group. The difficulties in classifying these syndromes according to their clinical features are clearly demonstrated by the fact that Gougerot (1950) suggested a series of "symptom complexes." After having started with a "monosymptom" he has at the moment already arrived at a "pentasymptom." Moreover, we deem it not impossible that in future even more clinical variants as yet unrecognized will come to light. A classification on clinical grounds therefore seems unsatisfactory to us and not practically feasible.

On the other hand, we have the impression that it is possible nevertheless to recognize a number of clinical features that occur more or less regularly in the various types of syndrome discussed in this paper, and all these variants have a basically similar histology. An analysis of the histopathological changes may furnish a basis for the evaluation of the various clinical appearances which may be met with in studying the syndromes concerned. The histological changes will manifest themselves clinically in the form of: erythema (hyperaemia), papules (dermal infiltration), vesicles, pustules, maceration (exudation) and (mostly superficial) necrosis, urticarial oedema, cutaneous haemorrhages, pigmentation and telangiectases. Although these features are observed in a varying degree in the clinical variants of cutaneous allergic arteriolitis, the simultaneous occurrence of a number of these primary pathological processes, particularly of those belonging to the last group, may give a clue to the diagnosis. Superficial haemorrhagic and necrotic manifestations and lesions showing an urticarial component, for instance, may be of diagnostic significance in recurrent eruptions suggesting a haematogenous dissemination.

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OBSERVATIONS ON THE PERSISTENCE OF SKIN SENSITIVITY WITH REFERENCE TO NICKEL ECZEMA.

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THE natural history of acquired epidermal sensitivity to specific substances is the subject of conflicting reports. Clinical observation confirms that cessation of contact with the offending agent will usually result in disappearance of the eczematous reaction produced, although there may be some delay. However, there is less general agreement as to how long a person retains a specific sensitivity, once acquired, and remains liable to reproduce the eczematous reaction if brought into contact with the offending agent once more.

Some authorities hold that such a sensitivity persists indefinitely. Sequeira, Ingram and Brain (1947) state that a specific sensitivity, once acquired, is unlikely to be lost, and Hellier (1950) believes that a person who has become sensitized will probably remain so for the rest of his life, and that the eczema will become progressively worse if contact continues. Sulzberger (1940) says that human beings sensitized to simple chemicals will often remain skin sensitive for years or for a lifetime without further exposure to the sensitizing agent. However, he goes on to mention, conversely, that such altered states, once established, do not always persist or necessarily continue in the same degree, and quotes for example the " hardening " of the skin said to occur in occupational dermatitis with constant or intermittent exposure to the allergen. This hardening in industry (*Abhärtung*) was first mentioned by Jadassohn (1923) and is described by Schwartz (Schwartz and Tulipan (1939), Schwartz (1944) and Eller and Schwartz (1935)) as occurring in workers new to an industry who develop a mild dermatitis but who continue working and finally become immune. However he notes that the new worker who develops a *severe* dermatitis does not become immune, nor does the man who suddenly becomes sensitized after handling materials with impunity for years. He adds that any immunity that is produced lasts for only a few weeks if contact with the allergen ceases ; on return to contact after a long absence, the whole hardening process must be gone through again. Peck, Gant and Schwartz (1945) reiterate this concept of " hardening " and quote in support several series of cases of their own and of other authors, in which the phenomenon appears to have taken place. Gougerot and Desmonts (1938) remark that attacks of dermatitis due to lacquer sensitivity became progressively less severe as contact continued. In a clinical study, Mayr (1938) found 162 out of 300 cases of industrial eczema remained cured over a three-year period, during which time all but 13% of

them had continued at their normal work. Although he uses the term hypersensitivity and says that it persists for a number of years but is usually limited, he does not really differentiate between those cases produced by sensitization and the larger industrial group caused by primary irritants. Prosser White (1934) held that an otherwise healthy man might without fear of relapse return to his original labour when his skin eruption cleared, but he presumably intended this statement to be confined to those whose skin eruptions were due to primary irritants, as he states earlier that a person once sensitized seems always to be sensitive. Sutton and Sutton (1949) say that hardening is " commonplace," but complicate the issue by going on to state that sensitization may disappear or greatly diminish if contact is *avoided* for many months.

Keil (1945), Hall (1944) and Probst *et al.* (1944) all doubt whether hardening to sensitizing agents ever occurs. Keil points out that few of the series published in support of the hypothesis have been adequately patch-tested at the outset, and considers that no one has proved that continued exposure to chemicals to which a patient is truly hypersensitive ever results in hyposensitization, hardening, habituation or increased tolerance. He suggested that most of the hardening described has been to primary irritants. Green (1944), studying persons engaged in the commercial production of morphine, stated that experience had shown that no person was ever able to resume the work once he had become sensitized to the substances handled. In passing it is worth mentioning that most sensitizing substances are also primary irritants in adequate strength (Landsteiner and Jacobs, 1935).

This apparent divergence of views finds its parallel in experimental studies. On the one hand Wedroff and Dolgoff (1935) have reported that all their human subjects experimentally sensitized to dinitrochlorbenzene spontaneously lost their sensitivity, without further contact, in a period ranging from 8 to 304 days. On the other hand, Sulzberger and Rostenberg (1939), who experimentally sensitized human beings to dinitrochlorbenzene and p-nitrosodimethylanilin, found on re-testing 6 of the 82 persons so sensitized that in only one was there any spontaneous reduction in sensitivity. They did not follow more than this small proportion of their total cases, and in no instance for longer than 16 months, and they admit that if followed for longer a decrease in sensitivity in these subjects might have become more apparent. The question of whether dinitrochlorbenzene is not in fact a primary irritant rather than a sensitizer must be considered in interpreting these conclusions, however. Sulzberger (1940) mentions a further series of experimental sensitizations of human skin performed by Rostenberg, Baer and himself in which they demonstrated persistence of hypersensitivity for at least three years after a single superficial skin exposure.

Working with animals, some observers have obtained results suggesting that a specific sensitivity will resolve. Milbradt (1932) repeatedly painted the ears

of mice with 20% nickel sulphate solution and produced a dermatitis in 90% of cases ; he found that after painting regularly for long periods (two to four months), a " specific desensitization " occurred. At this strength however, nickel sulphate might well be a primary irritant. Ginsberg, Stewart and Becker (1939) also demonstrated in guinea-pigs what they termed an analogous situation to hardening in industry ; they sensitized the animals by painting with ragweed plant oil and found that some of them became desensitized after repeated painting. There is a danger, however, in carrying too far the analogy between skin sensitization in animals and that in human subjects, as they are not always strictly comparable.

Kanof and Rostenberg (1941) in an intriguing study pointed out that the conflicting experimental evidence might be due to some difference between experimental sensitization and that which is spontaneous. Further, they regarded as untrustworthy the evidence that a sensitivity produced to chemicals not ordinarily encountered persists, but only on the grounds that the possibility of further exposure could not be absolutely excluded. This view is hardly in accord with the concept that hardening only ensues with repetitive contact. They sought a group of persons spontaneously sensitized to a substance (and proved so) whom they could re-test after an interval of years during which there had been no further contact. This they could not do, but they were able to examine a series of mental patients in America who had been incarcerated for an average of eleven years after reaching adult life. They held that these patients might be expected to have been exposed to poison-ivy to the same extent as average individuals before their admission and therefore to have contained the same proportion of sensitized subjects as a normal group, although this had not been proved by patch-testing. So far as could be ascertained there was no contact with poison-ivy while these patients were in hospital. Sixty-six of the subjects were patch-tested to poison-ivy and 15% gave positive reactions compared with 25% in a control series. They felt that this suggested a tendency for some loss of sensitivity to occur after absolute removal from the allergen.

From this it is apparent that there is conflicting evidence from two points of view. First, it would seem difficult to assess, in persons whose skins become sensitized but who subsequently avoid further contact, whether such a sensitivity is likely to persist indefinitely, whether it will resolve spontaneously in time, or in what proportion either outcome is to be expected. Second, there appears to be no agreement on whether desensitization is likely to occur, or unlikely to occur, if contact with the offending agent continues, either persistently or intermittently. It must be admitted that such evidence as there is on either hand tends to disregard the question of any individual constitutional differences in the subjects concerned, and it seems possible that innate personal differences of function may play a role equally as important as the continuance

or otherwise of contact with an external agent, in determining which of the above alternatives ultimately ensues.

In connection with this problem, the opportunity was presented to the writer of studying a group of individuals who were known at one time to have been sensitive to nickel and to have given positive patch-tests to that substance. It was thought that it would be of value if these cases were followed up and their sensitivity to nickel re-assessed after an interval of time.

Material.

Skin sensitivity to nickel is well recognized. Since Blaschko (1899) first described an eczema due to nickel in 1899 there have been numerous reports on the condition. Earlier accounts concerned its appearance in persons handling nickel salts in industrial processes (Schittenhelm and Stockinger (1925), Bulmer and Mackenzie (1926), but subsequently came reports of nickel sensitization from contact with finished products. Lain (1931) first recorded such a case, due to spectacle frames containing nickel, and since then there have been many reports of nickel articles as the cause of sensitivity. These include watches (DuBois, 1932), nickel coins (Rothman, 1931) spectacles (Taylor, Fergusson and Atkins, 1945), and suspenders, to mention but a few. It is generally assumed that nickel ions are released from the metal as a result of an electrolytic action made possible by such agencies as sweating at the contact site. The subject is well reviewed by Goldman (1933) and Foster and Ball (1935).

Nickel sensitivity is therefore relatively common, and simple chemical substances like nickel and its salts are particularly suitable for comparative studies as they provide a sensitizing agent which is of known, fixed composition, and so readily and exactly reproducible. Further, as skin sensitivity to such material is determined by patch-testing, the technique of the test can be standardized and likewise be exactly reproduced at will.

It was originally hoped in this investigation to follow up cases primarily of industrial origin, but it was found that the group of nickel sensitive patients was the only one available with sufficient numbers to give promise of providing results of value. The group selected contained all those patients who had given positive patch tests to nickel sulphate solution in this department during the period 1940 to 1949 inclusive. It comprised 58 subjects, of whom 53 were women and 5 were men. The apparent primary source of their sensitivity is given in Table I (which also explains the high preponderance of women).

It must be mentioned that apart from the primary site, in many of these cases once established, there were additional eczematous reactions at other sites where nickel was in contact with the skin, from earrings, brooch and

TABLE I.

	Women.	Men.	Total.
Nickel-plated suspenders	52	3	55
Nickel-plating (industry)	1	1	2
Nickel-plated watch	0	1	1
	53	5	58

necklace clasps, medallions, metal watch-straps, and even safety pins. Furthermore no less than 31 (57%) of these patients had on their original visit shown a secondary eczematous spread to sites other than those in contact with nickel, particularly to the elbow flexures, face and neck—a non-specific reaction, but a common one with nickel sensitivity which has been noted by many observers. Most of them had had contact with nickel for many years before sensitization became apparent.

Patients who had had a clinically typical suspender dermatitis but who had not been patch-tested were excluded from the series, as were those few patients who had given positive patch-tests to their actual suspenders at the onset, but who were never tested with the reproducible nickel sulphate solution. The shortest interval elapsing between the original visit of the most recent patients, in 1949, and the time of re-testing was 18 months, and in the majority of cases the interval was much longer. In view of the high proportion of women in this series it cannot fairly be claimed as representative of the community as a whole. Of the 58 subjects, 54 were traced, re-examined and patch-tested with nickel sulphate solution. Of the remaining 4 (including the man originally sensitized by his watch) one had died in the interval, one had left the country, and efforts to trace the other two were unavailing. These 4 patients not re-tested should not constitute a sufficient number to detract materially from the results obtained.

Technique.—The patients had all originally been patch-tested with one drop of 10% nickel sulphate solution on a small square of lint, which was fixed to the upper outer arm, or back, with zinc oxide strapping, according to the standard technique employed in this department. Of the 54 patients traced, 47 had originally given positive reactions in 24 hours, and 7 in 48 hours.

The subsequent patch tests in this investigation were performed in exactly the same way, on the upper outer arm, using one drop of 10% nickel sulphate solution. Readings were made on all patients at 24 hours and 48 hours, and if necessary again at 9 days, and if possible at 16 days after the original application. Five patients were not available after 48 hours, or were unwilling to be followed further. These were sent questionnaires requesting the final result, and 4 replied.

Results.

Of the 54 patients so tested, 31 gave positive reactions and 23 were negative. Of the cases with positive results, 15 were positive at 24 hours, and 5 were negative at 24 but positive at 48 hours; and of 11 negative at 48 hours, 8 became positive after 9 days, and 3 after 16 days.

To illustrate the influence of time on the persistence or otherwise of the sensitivity, the results are given in Table II, grouped according to the year of the original positive patch test. From these figures, it does not seem that the length of time elapsing since the original demonstration of sensitivity had any influence on the likelihood or otherwise of the sensitivity disappearing. Four cases showed a persistence of sensitivity for eleven years, whereas nine had lost their sensitivity within two years. Objection might be made on the grounds that all the 54 patients had active disease when first tested but that this was not necessarily the case at the time of the second test. However, no fewer than 36 patients did in fact have active eczema when re-tested.

Table II.

Year of original positive patch test.	Total.	Re-tested, 1951.	
		Positive.	Negative.
1940	4	4	0
1941	0	0	0
1942	7	2	5
1943	5	3	2
1944	3	3	0
1945	1	1	0
1946	4	2	2
1947	5	3	2
1948	11	8	3
1949	14	5	9
	54	31	23

The first observation is that a positive patch test could be repeated in only 31 out of 54 subjects (57%). The remaining 23 patients had become negative after an interval which ranged from $1\frac{1}{2}$ to 11 years. It should be noted that 11 patients still giving positive reactions showed an apparent diminution in the degree of their sensitivity in that a reaction formerly observed in 24 or 48 hours was not seen at 48 hours in the second test, and did not appear until 9 or 16 days after the patch test was applied. It might be argued that these patients showing delayed positive patch tests might be persons who had become negative in the interval between the two tests, and who had been re-sensitized by the second patch test itself, and who had not therefore necessarily been sensitive to nickel throughout. This possibility is not, however,

supported by their clinical histories as summarized below. On the other hand, to be certain that all the positive reactions possible had been obtained it would have been desirable to follow the whole series of patients for a longer period, for perhaps a month (Ingram, 1932). As the majority of the patients in the series were not attending anywhere for medical advice at this period it was unfortunately not found possible to do this.

Patients with Persisting Positive Patch Tests.

The 31 patients who still gave positive patch tests in the period described behaved as one might expect persons with a persistent specific sensitivity to do : so far as they could tell 20 of them had avoided contact with nickel since their original eruption, and of these 14 remained free from any skin trouble, except for rare instances when inadvertently they wore articles containing nickel (artificial jewellery, etc.), following which they immediately developed an eczematous reaction at the contact site. The other 6 patients who avoided obvious contact with nickel still had eczema, in four cases on the hands, and in two on the arms. They were all housewives, and in the case of those with eczema of the hands, it was thought to be due to the primary irritation of soap and water encountered in domestic duties. One complicating factor may be mentioned at this stage. In recent years the " silver " coinage in this country has contained large amounts of an alloy commonly known as cupro-nickel, which presumably provides a source of nickel contact for everybody. Eight patients with positive patch tests to nickel sulphate were simultaneously patch-tested with these cupro-nickel coins (post-1946) and in every case there was a fierce positive reaction. The significance of this finding in relation to this series is discussed later. It would seem probable that as these coins are normally brought into contact only with the relatively thick skin on the palmar surfaces of hands and fingers, they do not provoke a sensitivity in previously unaffected individuals with any ease. It is surprising, however, that there does not so far appear to be any report of an eczema on the thighs, due to coins carried in trouser pockets, comparable with the so-called " match-box " dermatitis.

The remaining eleven patients still sensitive to nickel had not avoided contact with nickel-plated suspender clips, etc., and all of them still had skin reactions at the contact sites. In one case the picture was overshadowed by a generalized constitutional eczema, and in another by a superadded actinic dermatitis, and in five women, who wrapped their suspenders in tape, the eczematous reaction was only intermittent (of these, four showed a delayed positive reaction to patch-testing).

Patients with Negative Patch Tests.

There were 23 patients in this group (43% of the total in the series), and of these 5 had avoided contact with nickel (with the exception of nickel coinage

already mentioned), while 18 had continued to retain their original nickel contact. Of the 5 who avoided contact, 4 had continued to suffer almost constantly from an eczema affecting various areas, and without invoking the negative patch tests there was nothing to suggest that their trouble was now in any way due to nickel. The remaining patient in this category had remained free of eczema since her original eruption.

The 18 patients who continued to wear nickel articles, and who had negative patch tests, showed considerable diversity in their clinical histories. Four had been free of any skin trouble since shortly after their original eruptions, but the remaining 14 had all had persistent or intermittent eczema ever since. It might be that some of these would have showed delayed positive reactions if followed for longer periods, but only 4 of them had any eczema under their suspenders, and in three of these the reaction was only present under the outer suspenders while the skin beneath the inner buckles was clear, a phenomenon suggesting that friction alone might now be the principal cause of their disability. The other 10 patients had no reactions at the contact sites, but all 10 had eczema of varying patterns frequently on other parts of the body.

Discussion.

The group of subjects with negative patch tests is more difficult to interpret than the larger group with persisting sensitivity. It is, of course, not possible to say more than that the former demonstrated that the particular skin site tested was not hypersenstive to nickel sulphate at the actual time of testing, although it had previously been so with the same particular manner and concentration of exposure.

Nevertheless the significance of the finding can be enlarged upon and the question which immediately arises is whether the alteration in sensitivity might not be a local one. Bloch (1929) and Sulzberger and Wise (1931) are among the several authorities who have held that local differences in sensitivity are common. There is again a conflict of views here, as other writers (Shelmire, 1939 ; Ingram, 1932 ; Keil, 1945), believe that all epidermal sensitization is general and that local sensitivity to external agents does not occur. There is support for the latter view in the present series in that of the 18 patients with negative patch tests on the arms and continuing nickel contact elsewhere, there was only one with eczematous reactions at all the contact sites with nickel. It may then be fairly claimed that the loss of sensitivity in these negative cases appeared to be general throughout the epidermis.

It is hardly possible to say that this spontaneous loss of sensitivity was due to "hardening". Six patients became desensitized in the absence of further contact, which might suggest that abstinence was the important factor in their cases. On the other hand, there were 20 patients who likewise avoided contact, but who remained sensitive, so that avoidance did not influence their

condition. The handling of nickel coins, presumably common to all the patients in this series, may have provided an obscured source of continual exposure, and so produced hardening. Any argument in favour of repeated exposure as the cause of loss of sensitivity, however, even in the 18 non-sensitive patients who continued with obvious exposure to nickel, leaves unexplained the reason why such a high proportion of these patients (10 of the 18) still had eczema at sites removed from the nickel while the contact areas remained perfectly clear.

There do not appear to be many other covert sources of nickel contact; the metal is only very occasionally used in dental prostheses in this country. It is present however in minute quantities in certain vegetable foods and animal tissues although it is not considered an essential trace element in human physiology (Everett, 1946). It is of interest to note its close chemical similarity to cobalt, which is now regarded as an essential mineral (Smith, 1948). Cases of cross epidermal sensitization between these two elements have incidentally been described (Haxthausen, 1936).

In the whole of this series there does not appear to have been any fixed pattern followed by the patients who became negative. Each and every possible combination of sequences was in fact observed in differing degrees, suggesting that a strong personal element was involved in each case. One important feature is that 18 of these 23 patients with negative patch tests continued to have eczema. Only 6 of them had had any eczematous eruptions prior to developing nickel sensitization, and in the remainder the occurrence of the sensitivity seemed to have been the start of their skin trouble. It is well recognized that a non-specific eczema may follow on an original sensitization, even though the provoking agent be removed, and this is stressed in relation to nickel by Foster and Ball (1935). However, this does not alter the viewpoint that persons who have become sensitized even to a relatively potent sensitizer like nickel must have a predisposition to develop eczema in the first place. Experimental evidence bearing on the question of whether persons with an eczematous history or those suffering from an active eczema are more liable than normal individuals to become sensitized to varying agents is conflicting (Grolnick, 1949; Knowles *et al.* 1938; Landsteiner, Rostenberg and Sulzberger, 1939). In the present series, however, it seems that an inference which can be drawn is that it was an underlying constitutional liability to develop eczema which was often the dominant factor as far as the appearance of a nickel eczema was concerned. The occurrence of a nickel sensitivity in the patients who ultimately became desensitized, but not, however, free of eczema, would seem to have been but an incident in an "eczematous career." and of itself of no fundamental significance. The final result depended not so much continued contact with the nickel or otherwise, but on the individual. This same viewpoint is taken by Robertson (1947) and by Hewitt (1951), who in a recent review of 80 cases of industrial dermatitis says that " . . . indus-

trial irritants and sensitizers are aetiologically insignificant in comparison with the overwhelming social and occupational problems which these patients present," and adds that these associated social, occupational and emotional disturbances seem to be an integral part, if not the cause of the malady.

The important conclusion from the observations in this series, although related to nickel sensitivity alone and mainly in women, is that a sizeable proportion of persons so sensitized, usually those with a marked tendency to develop the pattern reaction of eczema, may show a temporary sensitivity to the specific external agent, but subsequently lose it, irrespective of the continuance or otherwise of exposure, Further, many such persons, regardless of the loss of the specific sensitivity, continue to show eczematous reactions of a non-specific or constitutional character. This better explains the findings than the concept that with continued exposure some persons become "hardened" and some not, or that some lose their sensitivity if they avoid contact while others retain it, which is a highly complex picture. In this series as a whole, more than half of the persons originally found to be sensitive to nickel retained that sensitivity, but in the remainder the sensitivity was apparently only the start of, or an incident in, a train of eczematous reactions, and was itself likely to be of only limited duration. In very many of the patients in this smaller group the onset of trouble was at a time of non-specific stress, such as pregnancy, general ill health, or of marked emotional disturbance. A possible analogy is seen in persons with actinic dermatitis, where the sensitivity of the skin to sunlight appears to last for only a limited period in a proportion of cases.

It raises the issue that care is needed in the long-term interpretation of positive patch tests. This is not to suggest that a positive patch test is not of considerable diagnostic value, but in this series at least the detection of a specific sensitivity did not necessarily mean that the phenomenon was permanent, or that removal of the offending agent was the beginning and end of rational therapy.

Summary and Conclusions.

1. Fifty-four out of 58 patients known to have been sensitive to nickel were traced and their sensitivity reassessed by a standardized technique after an interval ranging from $1\frac{1}{2}$ to 11 years.

2. Thirty-one patients (57%) demonstrated a persisting sensitivity, confirmed by the presence of contact eczema with continued exposure, or freedom if contact was avoided. The longest observed duration of persisting sensitivity was 11 years.

3. Twenty-three patients (43%) gave negative results to patch testing. The loss of sensitivity was generalized and could not be constantly related either to continued contact, with possible hardening, or to avoidance of further contact. Eighteen of these patients continued to have eczema although no longer nickel sensitive.

4. The possibility of nickel sensitization arising from current coinage in this country is noted.

5. It is suggested that in a proportion of these patients, the specific sensitivity to nickel, which in 9 instances did not last more than eighteen months, could be regarded as merely a transitory phase in the course of a series of eczematous reactions, many of them non-specific in character.

6. The prognosis of patients with initial positive patch tests to nickel in this series was therefore complex, but appeared in a certain number to be independent of the continuance or otherwise of contact with nickel.

7. As the majority of those who became insensitive to nickel in due course continued to suffer from eczema, it seems that the constitutional background of the individual is often of much greater significance with regard to prognosis than the initial specific external agent.

Acknowledgments.

I wish to express my indebtedness to Dr. J. T. Ingram and Dr. F. F. Hellier for permission to investigate their patients and for much stimulating advice and encouragement in the preparation of this paper.

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STRUCTURES RESEMBLING FUSEAUX IN A CASE OF RINGWORM OF THE SCALP DUE TO *MICROSPORUM CANIS* BODIN AND *MICROSPORUM AUDOUINI* GRUBY.

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Direct microscopic examination of infected skin, nails and hair constitutes an important means of diagnosing diseases caused by the dermatophytes. In preparations of infected skin and nails it is possible to observe only septate branching hyphae, and generic or specific identification of the fungus can only be made in culture. Preparations of infected hairs may give some indication of the generic identity of the parasitizing fungus by the arrangement of arthrospores in relation to the hair shaft, but conclusive identification can be made only by the observation of characteristic morphological features as seen in pure culture. Davidson and Gregory (1933) have stated that "so long as hairs infected with *Microsporum audouini*, *Trichophyton gypseum* and other ringworm fungi remain attached to the body, the fungi attacking them consist only of hyphae and small round spores." Gregory (1935) has stated that "While parasitic in the skin, the dermatophyte thallus is differentiated only into hyphae and small round oidia or thallospores."

In cases of ringworm of the scalp caused by members of the genus microsporum the fungus is observed as a sheath of small round spores showing a mosaic arrangement round the hair shaft and no macroconidia are usually seen. When Davidson and Gregory (1934) removed hairs infected with *M. canis* from lesions of the scalp and placed them over water in van Teighem cells, they observed the development of characteristic fuseaux of the type frequently seen on artificial culture media. From their observations they concluded that dermatophytes are able to pass both the saprophytic and parasitic phases on the host tissue alone. The inception of the saprophytic phase was believed to occur in nature under suitable conditions of humidity when the infected material becomes detached. Nickerson (1947) has suggested that additional factors responsible for the *in vivo* restriction of fungal development to hyphae and arthrospores may not be found in the skin scales or hair alone, and might be of chemical nature supplied to the skin or hair by diffusion from adjacent resistant tissues.

Recently cases of microsporum scalp ringworm have been reported in which microscopic examination of infected scalp hairs revealed septate, boat-shaped structures which have been interpreted as fuseaux. Appel and Ansell (1949) reported two such cases in which the causative organism was *M. canis*

Bodin, and Felsher and Eirinberg (1950) one case in which *M. audouini* Gruby was isolated.

The present case of scalp ringworm due to *M. canis* Bodin and *M. audouini* Gruby is presented with a view to throwing some light on the nature of these *in vivo* "fuseaux."

Report of the Case.

The patient was a four-year-old boy who attended the school clinic with several patches of inflammatory ringworm. Scalp hairs were removed and mounted in cotton blue-lactophenol for microscopic investigation. The patient was treated with a standard mercurial ointment and attended the clinic again one week later. By the end of this time the inflammatory condition had disappeared and the lesions were typical of human scalp ringworm. Scalp hairs were manually epilated and mounted as before. The patient attended the clinic again after two weeks and further samples were taken, and these were the last received. The clinical appearance of the lesions was the same as before; they showed no tendency to clear up in response to the treatment received, nor did they show any tendency to spread.

Microscopic and Cultural Observations.

Sample 1: Infected hairs showed the mosaic sheath of arthrospores characteristic of microsporum infections of scalp hairs. In addition numerous smooth-walled, septate, boat-shaped structures were observed, arranged in the main along the longitudinal axis of the hair shaft. These structures took up an intense stain which later diffused out of the cells, softening their outlines. The cells were frequently joined end to end and gave the appearance of stout, septate fungal hyphae (Fig. 1). Many of the individual cells appeared to be in advanced stages of disintegration and their ends were torn and jagged. In no case were the cells attached to aerial hyphae as are the characteristic spindle-shaped fuseaux seen in culture. Attempts to germinate individual cells on 3% malt agar and modified Sabouraud's agar failed. Pure cultures of *M. canis* and *M. audouini* were isolated from infected scalp hairs. The cultures were characteristic in every respect.

Infected hairs from the patient were placed over water in modified van Teighem cells and examined microscopically after seven days. Large numbers of macroconidia had been produced by the fungus. The macroconidia were septate, with rough walls and characteristically spindle shaped (Fig. 2).

Sample 2: Infected hairs presented a similar appearance to that described for the first batch of samples. The boat-shaped structures were fewer in number and those present appeared to be disintegrating at their ends (Fig. 3). Attempts to obtain monospore cultures from the boat-shaped structures failed. Culture of these hairs yielded *M. audouini* only.

Sample 3: Examination of the third batch of scalp hairs received revealed only the mosaic spore sheath, and no boat-shaped cells were present. Pure cultures of *M. audouini* were again isolated.

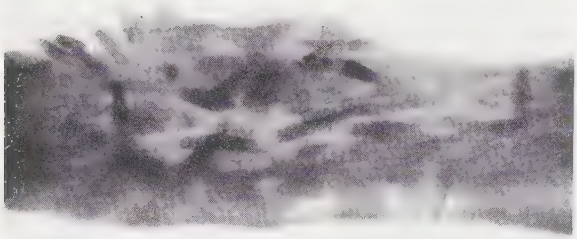

FIG. 1.—Scalp hair from the first sample taken from the patient, showing structures of suspected fungal origin. × 220.

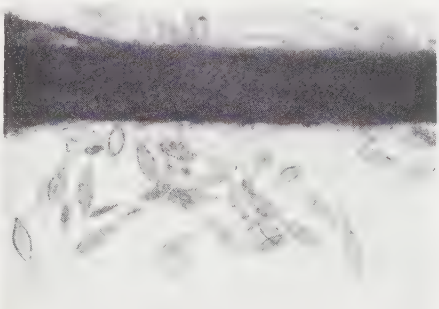

FIG. 2.—Macroconidia of *M. canis* Bodin. × 110.

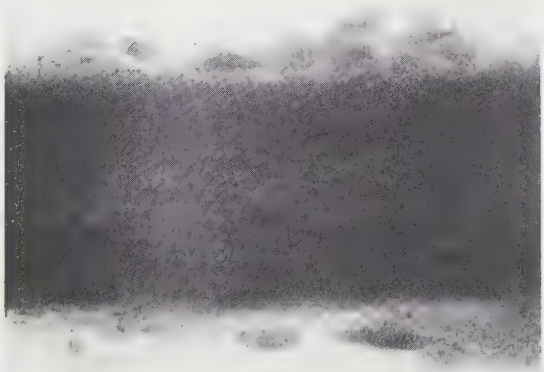

FIG. 3.—The same as Fig. 1. Second sample of material. × 290.

Discussion.

The structures described in this investigation are identical with those described by Appel and Ansell (1949) and by Felsher and Eirinberg (1950): comparisons of photomicrographs clearly indicate this. In the three cases described by the above authors many of the "macroconidia" were in advanced stages of breakdown, as were the structures described here. Appel and Ansell (1949) state that "the morphologic features of many of these fuseaux did not permit of immediate identification. Some did not show clearly the double contour of their wall. Most of them were recognizable only by their outlines: the septations and morphologic character of their cytoplasm were not distinguishable." Felsher and Eirinberg (1950) stated that some of the macroconidia in their case of ringworm resembled those of microsporum in shape, while others resembled those of the genus Trichophyton. A comparison of photomicrographs of typical fuseaux of microsporum with the structures described as fuseaux by the above authors and the structures presented here clearly indicate that they cannot be interpreted as normal fuseaux. There is a possibility that these cells may represent aborted or degenerating fuseaux. The arrangement of the cells in chains with clearly defined septa at irregular intervals more probably indicates that they represent some type of abnormal hyphal development. The damaged ends of the cells indicate that they are normally joined in chains and have become separated. Attempts to obtain monospore cultures of the fungus from the cells failed, and if they are of fungal origin it is presumed that they are not viable.

The isolation of both *M. canis* Bodin and *M. audouini* Gruby is interesting in this case since *in vivo* "fuseaux" have been described for both of these organisms.

Summary.

A case of ringworm of the scalp due to *M. audouini* and *M. canis* is reported. The occurrence of structures identical with those described by Appel and Ansell (1949) and by Felsher and Eirinberg (1950) as *in vivo* macroconidia were observed.

I am indebted to Professor C. W. Wardlaw for encouragement and advice received during the course of this investigation and to Dr. J. Curry for many valuable suggestions. Dr. J. Nuttall kindly supplied me with clinical notes on the case and with specimens for observation. The photographic illustrations are by Mr. E. Ashby, to whom I should like to express my thanks.

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CAT.

OBITUARY.

Dr. Harold Orr.

The death occurred in Toronto on 26 December 1952 of Dr. Harold Orr, O.B.E.

Dr. Orr was born in Toronto in 1889 and graduated from the University of Toronto in 1911. He entered general practice in Medicine Hat, Alberta, and in 1914 went overseas with the Canadian Expeditionary Force, to serve in France and Belgium. He was twice mentioned in dispatches, was awarded the Medaille des Épidémies and was made an Officer of the British Empire. The "Orr Hut," devised by him for treatment of clothing and equipment of men infested with lice, was officially sanctioned and adopted by military medical authorities.

After training under the late Dr. Sequeira at the London Hospital Dr. Orr became a member of the Dermatological Section of the Royal Society of Medicine. Returning to Canada after the First World War he opened a dermatological practice in Edmonton, Alberta, which he pursued with conspicuous success. He was Clinical Professor of Dermatology in the University of Alberta from 1925, and represented Canada at the Ninth International Dermatological Congress at Buda-Pesth in 1935. He served in Canada during the Second World War with the rank of lieutenant-colonel, C.A.M.C.

Dr. Orr's interest in public health was chiefly displayed in connection with venereal disease control. From 1920 he was Director of the Division of Social Hygiene of the Alberta Department of Public Health, holding the qualification of D.P.H. from Toronto University. He was a fellow of the Royal College of Physicians (Canada), of the American Academy of Dermatology and Syphilology and of the Pacific Dermatological Association, being vice-president of the latter body in 1950–51. He was also a member of the Canadian and American Dermatological Associations, of the Society of Investigative Dermatology and diplomate of the American Board of Dermatology and Syphilology. In 1951 he was appointed a consultant in venereal disease control to the World Health Organization.

In 1952 Dr. Orr was installed president of the Canadian Medical Association, sharing with the late William Allen Pusey the distinction of being one of the only two dermatologists in America to become president of the national medical organization of his country.

In November 1952 he represented Canada at the World Medical Association in Athens. It was here that he suffered a cardio-vascular attack, which was repeated in London and New York and finally in Toronto.

Dr. Orr was a man of deep humanity and wide sympathies, beloved and honoured by all who knew him. He was revered by a long succession of students, and he made many valuable contributions to medical literature. His knowledge of and interest in art contributed much to that side of the public life of the city of his adoption, where he took an active part in developing appreciation of Canadian artists. His many associations and activities were avidly pursued. Physical and mental activity was his life, but he loved good company and his infectious humour and warm enjoyment of life were his outstanding characteristics.

Death overtook him on the verge of his retirement, for before leaving upon the terrestrial journey from which he was fated not to return he had bought a house in Victoria, B.C., where for some years he had been wont to spend several months of the year, and had moved his home and family there. He leaves a wife and one daughter.

D. E. H. C.

NORTH OF ENGLAND DERMATOLOGICAL SOCIETY

Leeds, June 1952.

Porokeratosis Palmaris (Mantoux) and ? Dermatomyositis.—Dr. J. T. Ingram.

M. M—, a woman, aged 46.

History.—Facial eczema as infant. 1906: Otitis media and pneumonia. 1934: Pregnancy—child stillborn. The patient subsequently had pneumonia and "poisoned liver" and deep venous thrombosis of the left leg. She became obese; Weight now 14 st. Dyspnoea on exertion for three years. Has constantly taken thyroid until three years ago, irregularly since. Subject to Raynaud's phenomenon.

Family history.—Father died of heart disease.

General health otherwise reasonably good until July 1951, when she experienced attacks of widespread (?) urticaria and swellings of the face, attributed to a motor accident. She had antihistaminic therapy and recovered by November 1951.

In January 1952 she developed a painful red millet-seed papular eruption on the backs of the fingers and hands with fine circular punctate keratoses and plugs on pulps of fingers, about flexures of finger-joints and in palms, suggesting keratosis of the sweat ducts. In addition there were diffuse purplish and nodose pink erythematous lesions on the dorsal aspects of the upper parts of the arms, buttocks and fronts of knees, with some flushing of the face, especially of the upper lids with oedema. This condition has persisted, and has been associated with some malaise, slight pyrexia (to 99·5° F.) and a slight indefinite muscular weakness. Electromyograph shows no abnormality. B.P. 130/90. Catamenia regular. At one period there was doubtful enlargement of spleen.

General examination negative. No L.E. cells in peripheral blood. Cracked angles of mouth. No telangiectasia of nail-folds.

Laboratory examinations negative except E.S.R. 40 mm. per hour. W.R. negative.

There has been no response to treatment with antihistamine drugs.

Histology.—(1) Papule on right thumb: Acanthosis with elongation of the interpapillary processes and parakeratosis. The corium is rather vascular and shows perivascular lymphocytic infiltration. (2) Keratosis on palm: Hyperkeratosis and hyperplasia of stratum granulosum. Epidermal crypts contain parakeratotic horn. Patchy lymphoid infiltration in the corium. Lymphocytes encroach upon the epidermis. No evidence of polyarteritis nodosa.

Panniculitis (? Artefact).—Dr. S. T. Anning.

Mrs. M. K—, aged 71.

History.—For the last two years she has suffered from painful lumps in the abdominal wall, some of which have slowly disappeared over a period of months, others bursting and discharging pus. She says that, apart from rheumatic fever at the age of 33 years and a gastric ulcer treated medically when aged 38, her health has been excellent and that she still feels well. She has three children. No history of drug-taking.

On examination.—The whole of the anterior abdominal wall is tumid and contains subcutaneous tender lumps up to 2 cm. in diameter. Some are attached to the skin and are discoloured and fluctuant: some have discharged pus and healed with scarring.

General examination reveals nothing noteworthy. Blood-pressure 140 90. Rectal examination and sigmoidoscopy (Mr. H. S. Shucksmith) normal. Urine normal.

Investigations.—Blood count, E.S.R. normal. Wassermann reaction negative. Fat content of faeces normal. Chest skiagram normal. Skiagram of gastro-intestinal tract shows a small ulcer high up on the posterior wall of the stomach

Histology.—In the subcutaneous fat groups of foam cells are seen with lymphoid infiltration and occasional eosinophils. In some areas which are necrotic there is an infiltration of polymorphonuclear leucocytes.

Treatment.—Staph. aureus isolated from the pus from a nodule was sensitive to penicillin and streptomycin, but these antibiotics, and aureomycin, did not influence the condition. Phenergan (25 mg. nightly for three weeks) was also given without effect.

Comment.—The possibility has been considered that the condition was self-caused. The patient's husband has diabetes and she has been giving him insulin injections for some years. No proof has been obtained that she has been injecting herself, but after admission to hospital no fresh lesions appeared during a period of 6 weeks.

Multiple Spider Telangiectases Associated with Pregnancy.—Dr. A. J. E. Barlow.

Married woman aged 31 ; first pregnancy.

History.—When 3 months pregnant she noticed a blotchy red rash on the back of her right hand. This was symptomless, and gradually spread up the forearm and on to the upper arm.

Past history.—There is an indefinite history of a rash on the upper part of the body when the patient had typhoid fever at the age of 25, but she does not think it was similar to present rash.

Family history.—There is no family history of any skin trouble and no history of nose bleeding.

On examination.—A well-looking, dark haired woman, 6 months pregnant. On the back of the right hand and forearm there is a blotchy, erythematous rash which on close examination is seen to consist of myriads of small spider telangiectases, coalescing in some areas to form a fine telangiectatic network, but being typical spider naevi in the less dense areas. They are less numerous on the right upper arm, and there are occasional solitary lesions on the right shoulder and a typical spider naevus on the bridge of the nose. The buccal and nasal mucous membranes are normal.

Progress.—The rash persisted throughout pregnancy, which was uneventful and a normal female child was delivered on 11 September.

When seen on 23 September the rash was very much less evident, the telangiectatic element having disappeared, leaving a mottled light brownish staining resembling freckles.

Nodular Cutaneous Elastosis with Cysts and Comedones.—Dr. F. F. Hellier.

L. G. P—, a man aged 75.

Two years' history of defined indurated plaques on the face with marked follicular plugging. The lesions involve the outer half of the left eyebrow, the upper lip and the chin, and in these areas the hair has disappeared. There are gross comedones and some small cysts. Over the trunk he has a marked rather scanty patchy follicular hyperkeratosis.

The blood-pressure is raised and there is considerable senile deafness. Other investigations were essentially negative except for a complete absence of vitamin A in the blood.

Histology. Foci of degenerated collagen are seen in the papillae resembling that found in colloid milium ; gross follicular hyperkeratosis and a moderate lymphocytic infiltrate round the vessels and appendages.

The condition appears to be the same as that described by Favre and Racouchot (*Ann. Derm. Syph.*, 1951, **78**, 681).

Pyoderma.—Dr. H. Black.

A man aged 21.

History.—This man has suffered from recurrent furunculosis since the age of 9, and when aged 16 he developed deep-seated abscesses, which discharged through multiple sinuses.

On Examination.—There are multiple circinate depressed scars, some showing bridge scarring, most numerous on the back and buttocks but also on the lower limbs, front and back of the chest, forearms and the left temple. On the buttocks are large, tender, indurated masses over which the skin is thin and purple and pierced with several discharging sinuses.

Bacteriology.—*Staphylococcus aureus* was isolated in pure culture on three occasions and in association with a haemolytic streptococcus on another occasion. Mantoux test 1·10,000 positive.

Course.—Three courses of penicillin injections resulted in temporary improvement. In April 1952 injections of an intradermal autogenous vaccine were started. Each injection caused necrosis of the skin, which healed with scarring like the naturally occurring lesions. Subsequently the vaccine was found to cause necrosis in two normal subjects, but these healed without conspicuous scars. Inoculation of the patient's pus into the patient and two normal controls caused pustules in the patient and one control and an ulcer in the other control. The patient developed a small scar, but the lesions in the controls healed without scarring.

THE TENTH INTERNATIONAL CONGRESS OF DERMATOLOGY.

The Tenth International Congress of Dermatology was held in London from 21 to 26 July 1952 under the Presidency of Sir Archibald Gray, with Dr. G. B. Mitchell-Heggs as Secretary-General.

Most of the meetings were held at Bedford College. This proved to be an excellent arrangement, for the College provided five splendid lecture rooms, restaurant, and office accommodation, and was able also to house the Museum and the Technical exhibition. During the whole week the weather was warm and fine, and the college lawns and the surrounding park, with its fine trees, made it seem certain that no better venue could have been found in London, or indeed in the United Kingdom.

At an Opening Ceremony at Friends' House, Euston Road, the Congress was declared open by His Royal Highness The Duke of Gloucester, K.G.

The scientific papers were divided into two classes: Firstly, there were three chosen subjects at which speakers had been invited to read papers—"The Pathogenesis of Eczema" (Dr. J. C. Belisario, Professor O. Gans, Professor J. Gaté, Dr. D. M. Pillsbury, Professor G. Miescher, Dr. R. T. Brain); "ACTH and Cortisone: Effects on the Skin and Skin Diseases" (Dr. Louis A. Brunsting, Dr. L. P. Ereaux, Dr. Marion B. Sulzberger, Dr. F. T. G. Prunty); "The Treatment of Tuberculosis of the Skin and Allied Conditions" (Dr. G. B. Dowling, Professor J. Charpy, Dr. P. V. Marcussen, Dr. E. A. Sainz De Aja, Dr. G. Riehl, Professor M. L. O. Craps, Dr. G. Wetherley-Mein). These papers were followed by discussions in which further notable contributions were made.

The second class of paper was made up of those offered by members of the Congress. These were selected beforehand by an Academic Sub-committee under the secretaryship of Dr. R. M. B. MacKenna. Altogether about 160 papers of this sort were presented, 20 by British members.

The Museum, organized by Dr. Sydney Thomson's sub-committee, included over 40 exhibits and was open throughout the Congress, while the Technical exhibition was open from 22 to 25 July. The latter was arranged by Dr. Geoffrey Hodgson and opened in a short ceremony by Lord Gorell.

The demonstration of clinical cases was held in the wards of The Queen Alexandra Military Hospital on 23 and 24 July, and on each of these days about 70 patients were presented. This demonstration was organized by a sub-committee headed by Dr. G. B. Dowling: members of our Association gave loyal co-operation by sending patients from all parts of the United Kingdom.

Social events continued throughout the week under the control of Dr. J. E. M. Wigley and his sub-committee, culminating in the banquet, at which about 850 were present. Wives of members (and truant members !) were entertained all day and every day by a Ladies' Committee (Chairman, Lady Gray ; Secretary, Mrs. J. E. M. Wigley), which organized visits to places of interest in London and the Home Counties. These ladies, most of them wives of our own Members, worked tirelessly (or rather, regardless of fatigue) to assist with the organization of the Congress, and to help foreign visitors to enjoy their stay in London.

The Proceedings of the Congress are to be published in due course, and will include the Main Papers in full, summaries of the Short Papers, reports of the Clinical Cases and the reports of the meeting of the International Committee, the Delegates' meeting, and other official proceedings. The Proceedings are to be sent free of charge to all members of the Congress. Additional copies will be obtainable from the Editorial Office of the Congress, St. John's Hospital for Diseases of the Skin, Lisle Street, London, W.C.2.

BOOK REVIEWS.

Essentials of Dermatology.*

This compact little book is more in the brief-case than in the pocket-book category. The author keeps closely to the essentials of dermatology, with one or two exceptions ; for example, four lines on the Vogt-Koyanagi syndrome of uveitis, vitiligo, dysacousia and alopecia seem four lines too many in a book of this sort.

The book provides a wealth of useful and well-set-out information, and it makes an excellent practical guide for the physician or student who wishes to have a sound workaday knowledge of dermatology without delving too much into the very rare, the academic, or the obscure. It also makes a useful desk-side work of reference for the dermatologist.

Presentation of the material is excellent and the photographs are well placed in relation to the text. The clinical and histological monochrome illustrations are of uniformly high standard, but the six small colour plates, each measuring 1·25 by 1·5 inches, are unworthy of the three pages they occupy.

A valuable and practical feature is the section on the nursing aspects of various dermatoses at the end of each chapter. The author has an open mind on aetiology and treatment, and gives a fair and balanced consideration to present ideas of emotional factors.

Psychosomatic concepts are explained in more detail than in the previous editions. For example, lichen simplex chronicus, previously described as of unknown cause but occurring frequently in neurotic individuals, is now said to be " an intense

* *Essentials of Dermatology.* By Norman Tobias, M.D. 4th ed. Philadelphia : J. B. Lippincott Company, 1952. Pp. 596. 186 illustrations, including 6 in colour. Price 48*s*.

persistent or cyclic pruritus of central origin resulting from unresolved emotional conflicts."

All would not agree with the statement that in atopic eczema there is a congenital inability of the skin to neutralize histamine. The section on purpura has one or two misprints and redundancies. It hardly seems necessary to spend four lines in saying that non-thrombocytopenic cases are characterized by a normal platelet count while thrombocytopenic cases are characterized by a decrease in the blood-platelets. In discussing visceral (Henoch's) purpura the author states that it is a non-thrombocytopenic purpura, and sixteen lines later states that its diagnosis is based on persistent thrombocytopenia.

The book ends with a useful chapter on that difficult subject, the differential diagnosis and management of eruptions on the hands.

It is an interesting comment on therapeutic advances that in the second edition, published in 1945, the front cover contained detailed instructions on the use of sulphonamide drugs in dermatology. The use of sulphonamides has now so diminished that these two pages of information could to-day almost be condensed into the space that would be provided by omission of the Vogt-Koyanagi syndrome aforementioned !

In a previous edition the back cover contained a table of normal biochemical values and this also has disappeared, which is perhaps a pity for those with a poor memory for figures and decimal points.

The book has something of value for all who are interested in diseases of the skin. It is up to date in every way. B. R.

An Atlas of Dermatology.*

This atlas is to include 320 coloured plates and will be issued in twenty sections. The first three sections have been made available for review.

An atlas, of course, stands or falls by the quality of its illustrations, and it can be seen at once that these are of an extremely high standard. All the clinical pictures are in colour, and in the great majority of cases a very fine result has been obtained.

The clinical cases have been admirably selected, and illustrate well the clinical features described in the text. Opposite each plate is a brief clinical history of the case illustrated, and in one case (erythema multiforme) a transparency fits over the illustration in order to identify individual lesions mentioned in the text. The complete list of contents is not available to the reviewer, but it is evident that the scope of the atlas is wide, since the diseases so far illustrated include such uncommon disorders as parapsoriasis lichenoides and granulosis rubra nasi.

Since in an atlas the emphasis falls on the pictures, the written text is liable to be somewhat perfunctory. This is very far from being the case with this atlas, for the text is fairly full and very well written. For example, Darier's disease receives about 3000 words, including a discussion on the relationship between this disease and benign familial pemphigus of Gougerot-Hailey-Hailey, and a consideration of vitamin A in the pathogenesis and treatment. The text thus includes a comprehensive description of the diseases, including aetiology, treatment, and histopathology. The latter is illustrated with monochrome microphotographs which are of adequate standard, though they do not match the splendour of the clinical plates. It seems reasonable to say that even without the illustrations the written text would in itself constitute a notable treatise on dermatology.

* *Atlas de Dermatologie*. By P. De Graciansky and S. Boulle. Paris : Librairie Maloine S.A., 1952. 320 coloured plates. To be issued in 20 Parts. Price 2000 francs each. Obtainable from H. K. Lewis, London : Prospectus free on request.

Although in the text reference is frequently made to other authors, there is no indication that a list of references is going to be given ; if not, it seems a pity. The instalments of the book so far obtainable for review do not contain an index ; the pages are issued in loose-leaf form to be arranged in alphabetical order of diseases, but it is to be hoped that an index will also be made available.

The type of binding constitutes perhaps the most serious criticism. It is a loose-leaf binding which the reviewer regards with some misgiving : it will be a great pity if this excellent book is not sufficiently robustly bound to stand up to use.

The twenty sections of the complete work will eventually cost about £40, but although the price is high it is not excessive considering the cost of production. This atlas will be an extremely valuable acquisition to libraries, particularly of Medical Schools, for it is a work of reference as well as a means of teaching.

F. R. B.

Non-specific Reactions in Dermatology.*

This is a collection of papers originally read before the French Society of Dermatology and Syphilology. As there are over forty contributors and the text occupies over five hundred pages, a clear picture is given of current French opinion on this subject.

The opening chapter deals with the embryology and function of mesenchymatous tissue, Pautrier and Klemperer's views on the collagenoses, Reilly's general irritation syndrome and the adaptation syndrome. Two of the following papers are devoted to various aspects of the adaptation syndrome, and much of the remainder to cortisone and ACTH in relation to allergy, inflammation and diffusion. A section is devoted to the influence of the genital hormones on allergic responses.

The concluding chapters represent the editor's views on the aetiology and treatment of psoriasis. His theory involves the plasma albumin, the adrenal cortex and the diencephalon, and he believes that stimulation of the last-named provides the best chance of cure.

The discussion following individual papers is reported, and a summary is given in French, Italian, Spanish and rather indifferent English. H. T. H. W.

Skin Therapeutics : Prescription and Preparation. (Materia Medica Dermatologica.)†

This book is written for the dermatologist and is a fairly detailed review and summary of the literature on topical therapy. There are seven chapters : general considerations, basic materials, use of basic materials, specific drugs, selection of base in various conditions, effect in relation to base, and the last—tables. It will be obvious from the titles of these chapters that there must be some overlap and much repetition, but this does not matter if the book is to be used chiefly for reference, which was probably intended. The most interesting chapters should be those on the use of basic materials, on selection of the base in various conditions, and on the

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* *Non-specific Reactions in Dermatology.* Edited by Jacques Charpy. Paris : Masson et Cie. Pp. 523. 75 figs.

† *Skin Therapeutics : Prescription and Preparation. (Materia Medica Dermatologica.)* By M. K. Polano. Amsterdam, Houston, London, New York : Elsevier Publishing Co., Ltd. (Distributors—Cleaver-Hume Press), 1952. Pp. 276. Price 37*s.* 6*d.*

effect in relation to the base. The last is rather disappointing, but this may be only a reflection on the paucity of investigations hitherto published on the subject. The chapter on the use of bases is the most instructive. But Chapter VII, which consists entirely of tables, is probably the one that will prove of most universal value, because here the author has tried in 92 pages to bring some order to the chaos of international nomenclature by tabulating synonyms and equivalents. More could have been said on sensitization reactions, on barrier creams, and on the action of colloidal suspensions of drugs, which are apparently not mentioned.

The opinion of one pharmacist on this book was not enthusiastic. He regards the approach as too elementary: errors of fact were also noted such as iodoform being a "green powder" and benzoic acid having a "yellowish-brown colour." It is irritating to find the word "iodum" used where "iodine" has served its purpose well in previous sentences. There are also several contradictions and some printer's errors. The print and format are good.

It would seem that this book will have a limited appeal. It is not easy to read straight through, but a study of its contents by the dermatologist who is unfamiliar with the intricacies of the newer ointment bases will prove rewarding. The price is on the high side. C. H. W.

CURRENT LITERATURE.

TINEA CAPITIS IN THE ADULT AND ADOLESCENT. James Lewis Pipkin. (1952) *Arch. Derm. Syph., Chicago*, **66**, 9.

This is an interesting and lengthy survey of the occurrence of ringworm of the scalp in adults and adolescents in the U.S.A. with a detailed review of the 39 adult and 18 adolescent cases adequately studied out of 64 (4·9%) met with among 1304 patients suffering from ringworm of the scalp in the author's practice in Texas. This high incidence after puberty in Texas is probably due to the long existence of endemic foci of endothrix trichophyton infection in the region, which was responsible for 82% of adult and adolescent cases. J. K.

NEUROGENIC FACTORS IN CONTACT DERMATITIS. William B. Guy. (1952) *Arch. Derm. Syph., Chicago*, **66**, 1.

In this attempt to assess under laboratory conditions the influence of emotional factors on sensitivity of the skin, the author, with Gestapo-like ingenuity, constructed an apparatus which, every 15 minutes day and night for 5 days, upset guinea-pigs both mentally and physically. The animals had been previously sensitized, and at the end of exposure to stress patch tests showed an increased reaction. Unfortunately only 5 animals were used in the experiment and the use of controls was unsatisfactory. J. K.

CUTANEOUS ANGIO-RETICULOMATOSIS (KAPOSI'S MULTIPLE IDIOPATHIC PIGMENTARY SARCOMATOSIS). Ad. Dupont. (1952) *Arch. belg. Derm. Syph.*, **8**, 3.

This essay usefully summarizes our knowledge of Kaposi's disease and includes details of its histopathology and haematology. Reasons are given for confirming the author's view that it is a benign systematized new-formation, an angio-reticulomatosis. J. K.

ASSESSMENT OF THE DERMATOPHYTES AND THE TREATMENT OF THE DISEASES THEY PRODUCE. R. Vanbreuseghem. (1952) *Arch. belg. Derm. Syph.*, **8**, 22.

This is a careful and lengthy (some 41 pages plus bibliography) attempt to summarize and assess our knowledge of the ringworm infections.

After a discussion of the influence of age, sex, race and occupation on the incidence of infection, numerous examples are given to show the variation in the types found in various parts of the world. Brief notes are then given on the origin of infection in the different types and on the keratolytic properties of the fungi. The author stresses the difference in morphology between growth *in vivo* and *in vitro*, even when this takes place in the same substance such as hair.

Classification of the dermatophytes is extensively dealt with, the methods of Sabouraud, Emmons, and Langeron and Milochevitch as modified by Vanbreuseghem are all enumerated, the last, naturally, being preferred.

Assessment of the value of the various treatments is along usual lines, but the author stresses the recent recognition that the tendency to spontaneous cure in tinea capitis is greater than used to be realized, and puts in a plea, with which the abstractor agrees, for the careful use of thallium epilation in suitable cases.

The article ends with a discussion of immunity and allergy in these infections, including classification of the trichophytides. J. K.

PURPURIC AND PIGMENTED LICHENOID DERMATITIS. H. Gougerot and P. Blum. (1952) *Arch. argent. Derm.*, **2**, 1.

In this article the clinical and histological characteristics of this disorder and the differential diagnosis from Schamberg's disease are discussed in detail. G. W. B.

THERAPEUTIC RESULTS FROM ORAL EXHIBITION OF A PROCAINE AMIDE. F. R. Schmidt. [1952] *Arch. argent. Derm.*, **2**, 9.

P-amino-N (2-diethyl-ethylamine) benzamide HCl is stable when taken orally. 250 mg. was given six-hourly to 42 patients suffering from atopic dermatitis, lichen planus, genital pruritus,

eczema or urticaria. Improvement, generally beginning about the fifth day, was noted in about 70% of those with atopic dermatitis and 50% of those with lichen planus. The simultaneous addition of 150 mg. ascorbic acid in some patients made no obvious difference to the final results. G. W. B.

A NEW METHOD OF TREATING ORIENTAL SORES. J. Alferez Lirola. (1952) *Actas dermo-sif., Madrid*, **43**, 687.

Cutaneous leishmaniasis will often persist for a year or more before spontaneous healing occurs. The author noted that after vaccinating a patient with such a lesion during a smallpox epidemic it regressed rapidly, so he tried vaccination on 10 other proved cases, mostly of recent origin. The sores healed rapidly in those who had never been vaccinated previously, and also where there was a strong inflammatory reaction in the revaccinated. When there was only a mild reaction to revaccination the rate of healing was slower. He wonders if this method of treatment will be successful in other forms of leishmaniasis. G. W. B.

OCCUPATIONAL SUBUNGUAL TYLOSIS. J. Ramos e Silva and D. Cozzolino. (1952) *Arch. argent. Derm.*, **2**, 93.

A localized thickening of the epidermis, mainly of the stratum corneum, forming a hard raised fringe under the free edge of the nail and separating it from the digital pulp was found in workers in a tanyard and two laundries.

The lesions arose mainly from the mechanical nature of the work reinforced by moisture and irritating chemicals. Secondary manifestations were found in the nail plate and adjacent epidermis. G. W. B.

GLOMERULONEPHRITIS ASSOCIATED WITH ATOPIC DERMATITIS. K. S. Steiner. (1952) *New Engl. J. Med.*, **247**, 201.

Careful investigation of 41 cases of atopic dermatitis showed that 7 had glomerulonephritis.

The author suggests that there may be a connection between the two conditions, and that glomerulonephritis might result from the spread of allergy from one shock organ to another. A. D. P.

ROSACEA : THE ROLE OF DEMODEX FOLLICULORUM. R. C. E. Brodie. (1952) *Austral. J. Derm.*, **3**, 149.

The author found *Demodex folliculorum* in 43 of 50 consecutive cases of rosacea. The mode of treatment depends on whether the mite is present or absent : in the former event a sulphur cream is used ; in the latter sulphur does not give as good results as sedative applications.

The capture and identification of the demodex are described carefully. An account of its incidence in normal controls, and in those suffering from other skin diseases, would have been of great interest. R. E. B.

THE PATHOLOGICAL NATURE OF MYCOSIS FUNGOIDES. Vincent J. McGovern. (1952) *Austral. J. Derm.*, **3**, 153.

Two case-reports with autopsies and a short discussion of the relation of this condition to follicular lymphoblastoma. In one patient the disease remained localized to the skin ; the other had lymphosarcomatous involvement of lungs and kidneys. R. E. B.

THE PROBLEM OF SKIN CANCER. W. H. Ward. (1952) *Austral. J. Derm.*, **3**, 157.

This is a preliminary report of a statistical investigation which the author began two years ago. Details of complexion-type, parentage, duration of residence in Australia and solar sensitivity are carefully recorded, and compared with control groups without skin cancer.

1391 lesions in 640 patients are reported, with details of position and clinical classification.

Radiotherapy has apparently been used in all cases, but with very commendable reticence the author has refrained from giving particulars of treatment or its results until a longer period shall have elapsed.

These results should be most interesting when they appear, and it is to be hoped that this detailed study will be supplemented by an equally detailed and complete follow-up. R. E. B.

A FATAL CASE OF ACUTE PEMPHIGUS. A. J. Foote. (1952) *Austral. J. Derm.*, **3**, 164.

A woman aged 40 died of an acute febrile bullous eruption. The article includes clinical and post-mortem details, and a report of a discussion in which the diagnosis of bullous erythema multiforme was suggested as a reasonable alternative. R. E. B.

LICHEN SCLEROSUS ET ATROPHICUS IN RELATION TO THE DIAGNOSIS "LEUKOPLAKIA" AND "KRAUROSIS" OF THE VULVA. Ian O. Stahle and Allan W. Pound. (1952) *Austral. J. Derm.*, **3**, 168.

Four cases of lichen sclerosus of the vulva are detailed in this paper. The report is marred by loose terminology: to convert a papule into a macule it appears that one need only employ inverted commas.

The discussion emphasizes the difficulties encountered in the diagnosis of the conditions mentioned, and goes some way towards elucidating them: reference to the recent paper on the subject in this Journal would have simplified the authors' task. R. E. B.

NON-KERATINS: A CONTRIBUTION TO THE BIOCHEMISTRY OF KERATINIZATION. A. Bolliger. (1952) *Austral. J. Derm.*, **3**, 179.

Your reviewer, who is not a biochemist, can only quote the author's summary in full, with the comment that the article does not give details of the experiments from which these conclusions are drawn:

"From this work the result has emerged that keratinous structures of vertebrate integument contain a number of water-soluble non-protein substances called 'non-keratins' residing in association with the keratin. These non-keratins are considered to be by-products of the process of keratinization and their study furnishes valuable information concerning the mechanism of keratin formation.

"Furthermore, within certain species of normals the non-keratins are present in fairly constant quantities, that is to say, we are dealing with measurable and comparable amounts of definite compounds and consequently, standards for normals can be established as is done in blood and urine chemistry. In short, this means that a new form of skin and integument chemistry, the chemistry of the non-keratins, is in the process of development. This certainly will afford us an insight into the formation of different types of keratin and the manner in which they are influenced by location, age, species, etc. Furthermore, there are indications that when keratinization becomes abnormal the amount of the non-keratins alters. Measurements already made indicate that the influences of age, sex and health of the patient are reflected in the non-keratins of hair. Some information may therefore be gained concerning the mechanism of pathological keratinization and therapeutic approaches may be suggested by such findings. Fortunately many forms of keratinous tissue such as hair, feathers, etc., are readily obtainable, and may be analysed for non-keratins by comparatively simple methods.

"Because of the importance to the dermatologist of human hair and human keratinous structures in general, it is manifest that further knowledge in this field is an imperative necessity." R. E. B.

PARSNIP DERMATITIS IN THE TROPICS UNDER ACTIVE SERVICE CONDITIONS. J. C. Belisario. (1952) *Austral. J. Derm.*, **3**, 183.

The condition is described in detail, with 22 references. It is difficult to see the relevance of some of the figures given, especially those for the calorific value of old carrots, swedes, and white turnips, but the article contains much interesting matter. R. E. B.

TOLERANCE TO ADHESIVE PLASTERS AND TO ELASTIC PLASTER BANDAGES. H. S. F. Scheffler and B. Linder. (1952) *Derm. Wschr.*, **125**, 565.

100 patients were subjected to various skin tests with plaster left in position from 1–4 days. It was found that plasters of porous type were tolerated best; that sensitivity increased with the duration of application, reaching the maximum after about three days, and that a previous application of tincture of iodine was likely to increase intolerance, but previous treatment with benzene, 96% alcohol or ether had no such effect. Of 50 eczema patients previously treated with iodine 22 had severe irritation with non-porous plaster. Of 50 patients with a sound skin 9 had irritation, two of these even with porous plaster. M. S. S.

EOSINOPHILIC GRANULOMA OF THE FACE. K. W. Kalkoff and M. Dietz. (1952) *Derm. Wschr.*, **126**, 681.

The authors describe the clinical and histological appearances (including photographs and micro-photographs) in a woman aged 39 with multiple lesions of eosinophilic granuloma of the face. A skiagram of the chest showed calcified nodules. Tuberculin skin tests were negative. There was a blood eosinophilia of 14%. The lesions yielded only partially to x-ray therapy. The examples in the literature are almost consistently radio-resistant and confined to the face (with one exception). Lesions in lungs or bones were absent. Eosinophilic granuloma of the face apparently differs from eosinophilic skin granulomas described before 1945. There a localization confined strictly to the face was found only once, also some authors found the lesions to be radio-sensitive. A blood eosinophilia was the rule, but this is rare in eosinophilic granuloma of the face.

Eosinophilic granuloma of the face should not be classed with eosinophilic granuloma of bone whose rare associated skin lesions are radio-sensitive ; nor with lymphadenosis benigna cutis with which clinically it has much in common but which also is radio-sensitive (and penicillin sensitive according to some writers), and whose tissue infiltrate is mainly lymphoreticular, not predominantly polymorphonuclear with eosinophils. It should also be differentiated from the Hand-Schuller-Christian syndrome. Although the histological appearances have much in common the clinical skin appearances are very different.

Eosinophilic tissue reactions to insect bites can resemble eosinophilic granuloma of the face but differ in the the duration and course of the lesions.

The authors note the resemblance to Boeck's sarcoid, but the findings with the capillary microscope differ. In Boeck's disease there is striking atony of the vessels ; in eosinophilic granuloma marked dilatation of the vessels in the subpapillary zone with papillary oedema and haemorrhages in the early stage.

Although histologically the appearances in erythema elevatum diutinum resemble eosinophilic granuloma of the face, the lesions in the former seldom appear on the face. M. S. S.

ADVANCES IN THE HISTOPATHOLOGY OF SCLEREDEMA ADULTORUM (BUSCHKE). O. Braun-Falco. (1952) *Derm. Wschr.*, **125**, 409.

The author draws attention to the association between scleredema and antecedent infective processes and tabulates instances of scleredema following some disease process. It explains the success of penicillin therapy in some cases. He finds in the cutis an increase in hyaluronic acid, considered to be responsible for metachromasia ; and heaping of mast cells, held along with the young fibroblasts to be responsible for the production of hyaluronic acid. The holes or spaces between the collagen bundles in the deeper cutis appear to be due to the disappearance of hyaluronic acid from the use of watery solutions in the usual fixing processes. M. S. S.

EPIDERMOLYSIS BULLOSA. H. Langhof. (1952) *Derm. Wschr.*, **126**, 764.

A father and son with a dominant inheritance of epidermolysis bullosa were investigated. An injection of hyaluronidase caused fresh bullae to appear. As hyaluronidase activity is heightened by NaCl the serum NaCl content was estimated in the son and was found to be raised (643 mg.%). Gamma globulin was increased in the electrophoretic diagram in both father and son. In both the serum cystine and methionin was diminished (in the content of the bullae also), and in the urine the histamin-histidin fraction was increased. Histamin checks the blocking action of heparin on hyaluronidase, and acting synergistically with hyaluronidase increases capillary permeability. Heparin, on the other hand, increases coagulation time and is pre-formed in the mast cells. The bleeding time in both father and son was shortened, suggesting a decrease of heparin.

The back of the hands and shins were rubbed thrice daily with heparin-containing Thrombophobsalbe (Nordmark) and no further bullae developed there. As additional treatment, since only small areas of the skin could be treated thus, a salt-free diet was given, but did not prevent the appearance of fresh blisters ; sodium salicylate, a hyaluronidase inhibitor, was then tried (6 gm. daily) but caused severe hyperidrosis of hands and feet. As heparin increases in the blood after peptone shock, an olobintin injection, 40%, $\frac{1}{2}$ c.c. was injected intramuscularly as a substitute. The coagulation time became increased. Nikolsky's sign could no longer be obtained, and no new bullae appeared up till discharge six days later. M. S. S.

TRAUMATIC LYMPHOCYTOMA OF THE LEFT EAR LOBE. H. Weybrecht. (1952) *Derm. Wschr.*, **125**, 369.

Following a blow a child aged 9 developed a lymphocytoma of the left ear lobe ; this responded to x-ray therapy. Some years previously there had been radiological evidence of a healing

tuberculous lesion at the root of one lung. Clinical photographs and photomicrographs accompany the text. One of the latter shows a subcutaneous artery with periarterial lymphatic metaplasia ; the other under higher magnification shows the three types of cells surrounding the artery beginning in the adventitia and becoming denser outwards : immature lymphocytes (or lymphoblasts), reticulum cells and ripe lymphocytes : beyond this an attempt at fibrous tissue encapsulation.
M. S. S.

THE USE OF ALKYL-POLYETHYLENE OXIDE DERIVATIVES AS SURFACE ANAESTHETICS. K. Schulz. (1952) *Derm. Wschr.*, **126**, 657.

In 63 patients polyethylene oxide ether of dodecyl alcohol (called Sch. 600) in a 1–2% watery solution or 1% salve in eucerine was useful in the treatment of painful wounds, e.g., after extraction of finger nails, burns or oral mucous membrane lesions, but applied to an inflamed skin it increased irritation in 5 patients, although in no case did it lead to true sensitization. It was uncertain in its action applied to itchy dermatoses through unbroken skin. The author discusses the chemistry, noting the similarity to carbowax. Hydrophilic and lipophilic, it is valuable for its surface activity. In a similar concentration to novocaine solution the duration of activity is much superior and it is less toxic.
M. S. S.

PSEUDO-RELAPSES AFTER X-RAY IRRADIATION OF SKIN CARCINOMAS. (Observations on "Pseudo-relapses after Chaoul Contact Therapy with Particular Regard to the Histology," Doelcher and Weybrecht, 1952, *Derm. Wschr.*, **125**, 152.) H. Gartmann. (1952) *Derm. Wschr.*, **126**, 170.

Of 683 patients suffering from skin carcinoma or a precancerous lesion, e.g., Bowen's epithelioma, who were treated with x-rays (Chaoul), 33 developed a pseudo-relapse over the irradiated site in most instances within 4–9 weeks after therapy, but in one or two during treatment. The relapses could be classified in three main groups: (1) erosive type with exuberant granulation, (2) ring-formed with a hypertrophic scar and at times rough surface, (3) warty. The basal layer was at all times sharply demarcated from the dermis. Clinical photographs and photomicrographs illustrate the text. All pseudo-relapses yielded without recurrence and with a soft scar to painting with pure carbolic acid. The dosage and F.S.D. differed from those of the authors whose contribution prompted this article. The author supports the view of these writers that the stimulating effect of soft secondary rays from the metal applicator may by acting superficially on a seborrhoeic skin account for the pseudo-relapse.
M. S. S.

A PAPULAR AND A VESICULAR EXANTHEM AFTER PRONTOSIL RUBRUM. H. Dietel. (1952) *Derm. Wschr.*, **125**, 585.

Of particular interest in one of the two patients described was the reddish blue papular (millet seed to rice sized) appearance of much of the angry oedematous widespread eruption with vesicles of uniform size and weeping in some places. In the other patients a bright punctate erythema studded with pinhead-sized vesicles and some papules was present over trunk and extremities. The face was clear.
M. S. S.

COMPARATIVE OBSERVATIONS OF KELOID, SCLEROEDEMA AND MYXOEDEMATOUS SKIN CHANGES. E. Keining and O. Braun-Falco. (1952) *Derm. Wschr.*, **126**, 633.

The authors draw attention to the keloid scarring which follows a wound, e.g., biopsy wound on a scleroedematous area in the adult, although a wound elsewhere or on the same site previously could be followed by a sound scar. In both fresh keloids and fresh scleroedema there is an increase in hyaluronic acid, a heaping of mast-cells in the area, and the ratio between hyaluronic acid and hyaluronidase production is disturbed. Both conditions respond to treatment with hyaluronidase. Localized myxoedema possesses the same characteristics. The author suggests that keloids are due to a local infective toxic process, scleroedema to a general infective toxaemia sometimes yielding to penicillin therapy, and localized myxoedema to a hormonal or thyroid toxicosis.
M. S. S.

THE REACTION OF THE SKIN OF NEURODERMATITICS TO TWO NICOTINIC ACID-CONTAINING IRRITANTS. L. Illig. (1952) *Derm. Wschr.*, **126**, 753.

The author tested the skin reactivity of neurodermatitis patients to nicotinic acid containing rubefacients –in particular pyridin β carbonic acid benzyl ester, Rubriment (Nordmark). A standard quantity of this 5% salve was smeared on to a circular area of skin 4 cm. in diameter on the back. Compared with the controls, normal individuals or patients with other skin com-

plaints, sufferers from neurodermatitis showed a much larger proportion of diminished reactions, 33 out of 47 as compared with 11 of the 178 controls. A diminished reaction might be erythema without oedema, no reaction, anaemia following a short hyperaemia without oedema, or anaemia with or without a surrounding hyperaemic zone. This diminished manner of reacting is considered to be due to a constitutional elective heightening of vasoconstrictor excitability —white dermatographism. No control showed an actual anaemic response. The author considered of particular interest the finding that several patients suffering simultaneously from flexural eczema and seborrhoeic dermatitis showed a weakened response. M. S. S.

THE SIMULTANEOUS OCCURRENCE OF ICHTHYOSIS AND CRYPTORCHISM. H. J. Sonneck. (1952) *Derm. Wschr.*, **126**, 662.

The author, describing two examples of ichthyosis with undescended testicles from his own experience, thinks this combination is much less rare than would appear. In one of his cases the family history was negative, but in the other ichthyosis could be traced back through two generations affecting male members only. Both children showed evidence of an enlarged thymus. With testicular and anterior pituitary hormones the testicles descended but the skin remained unchanged.

The author thinks that a congenital hormonal defect affecting the anterior pituitary with pluriglandular consequences acting in the presence of a geneto-chromosomal defect may account for somatic changes such as the occurrence of ichthyosis with cryptorchidism. M. S. S.

CORTICOTROPIN AND CORTISONE TREATMENT FOR SYSTEMATIC LUPUS ERYTHEMATOSUS. E. L. Dubois, R. R. Commons, P. Starr, C. S. Stein and R. Morrison. (1952) *J. Amer. med. Ass.*, **149**, 995.

The course of 45 cases of systemic lupus erythematosus treated with Cortisone and/or ACTH is compared with that of 30 earlier untreated cases. Systemic lupus erythematosus, which used to be considered rare, is diagnosed as frequently as classical pernicious anaemia. Spontaneous remissions occur in 20% to 40% of cases, and it is suggested that patients with the mild forms should be observed during a rest period of several weeks as the frequency of spontaneous remissions appears to be reduced by therapy. Although there is no definite evidence that treatment with ACTH or Cortisone will prolong the expectation of life, they are the most effective weapons at present available. The usual cause of failure to respond to treatment is inadequate dosage. "The obvious clinical appearance of Cushing's state rather than stereotyped dosage schedules should be used as an end-point to determine the effectiveness of therapy." Very large doses are sometimes required in crises; one patient received 2400 mg. of Cortisone daily for 3 days. The usual initial dosage is 40 to 60 mg. of ACTH intravenously daily. If fever persists the dose is increased to 100 mg. or higher. The authors aim to produce a Cushing's state as rapidly as possible, but consider that states below the Cushing level are satisfactory for maintenance.

A. J. R.

CORTICOTROPIN AND CORTISONE IN ACUTE DISSEMINATED LUPUS ERYTHEMATOSUS. L. J. Soffer and R. Bader. (1952). *J. Amer. med. Ass.*, **149**, 1002.

Eighteen patients with disseminated lupus erythematosus were treated with ACTH and/or Cortisone for from 3 to 20 months. Six have died, and of the 12 who survive 8 are continuing treatment. Adequate doses produced prompt remission of fever, arthritis, pleuritis, pericarditis, Raynaud's phenomenon and the organic mental syndrome. The rash, mucous membrane lesions, retinal lesions and effusions cleared more slowly. Lupus erythematosus cells persisted despite remissions, although they disappeared temporarily at times. Renal damage persisted. No actual cures can be obtained, but it is possible that patients can be maintained in remission for prolonged periods.

These authors employ an initial daily dose of 100 mg. of ACTH given intramuscularly in divided doses or 200 to 300 mg. of Cortisone orally or intramuscularly. For maintenance they employ 20 to 50 mg. of ACTH or 50 to 100 mg. of Cortisone. They advise a 200-mg. sodium diet and 2 to 6 g. of potassium chloride daily. A. J. R.

DISTURBANCE OF NAILS AND NAIL BEDS PRODUCED BY ARTIFICIAL FINGER-NAILS. G. M. Frumess, H. M. Lewis and E. J. Henschel. (1952) *J. Amer. med. Ass.*, **149**, 828.

The day after wearing artificial finger-nails applied with a special adhesive a woman, aged 36, noticed tenderness and blue pigmentation of the nails. During the next 2 weeks she developed

separation of the nail-plates from the nail-beds and keratotic thickening below the nails. These clinical features resemble those reported from the use of a "base-coat." Presumably this is an allergic reaction to a constituent of the adhesive or the artificial nail itself, perhaps to nitrocellulose.
A. J. R.

ARE FUNGOUS INFECTIONS INCREASING AS A RESULT OF ANTIBIOTIC THERAPY? A. L. Kligman. (1952) *J. Amer. med. Ass.*, **149**, 979.

This is a thoughtful and important review. The newer antibiotics by suppressing sensitive micro-organisms allow the resistant flora to multiply. The latter include monilia, which can frequently be isolated in large quantities from the mouths of persons receiving antibiotics, particularly when these are given in the form of troches which are allowed to dissolve in the mouth. Monilia can often be isolated from the mouths of such persons even when no demonstrable side-effects have been produced. There is much doubt as to whether the stomatitis, glossitis, perleche and anogenital pruritus can be attributed to moniliasis, as these manifestations seldom conform to the accepted clinical pictures of monilial infection. Many of the deaths which have been recorded from systemic invasion by usually harmless saprophites, such as monilia, have occurred in individuals with grave primary diseases such as leukaemia. The wide spectrum antibiotics were not found to enhance the growth of *Candida albicans in vitro* nor to potentiate mycotic disease in animals with experimental moniliasis, blastomycosis, histoplasmosis, coccidioidomycosis and sporotrichosis.
A. J. R.

POST-OPERATIVE BACTERIAL SYNERGISTIC CELLULITIS OF ABDOMINAL WALL. M. Behrend and T. B. Krouse. (1952) *J. Amer. med. Ass.*, **149**, 1122.

This condition is similar in its aetiology and course to post-operative progressive synergistic bacterial gangrene. The infection appears to result from synergism between anaerobic non-haemolytic streptococci and Gram-positive aerobic *Bacillus subtilis*. The most striking features of the clinical picture are leathery induration and oedema.
A. J. R.

TREPONEMAL IMMOBILIZATION TEST. J. L. Miller, M. H. Slatkin, R. R. Feiner, J. Portnoy and A. B. Cannon. (1952) *J. Amer. med. Ass.*, **149**, 987.

The treponemal immobilization test was highly accurate in 123 cases of proved syphilis. The test was negative in only 6 patients, all of whom had been adequately treated early in the course of their infections, 29 months to 21 years before. The test was negative in 82 non-syphilitics. In other series of cases the reliability of the test received further support. Its great advantage is its specificity as compared with serological tests, which depend on the presence of reagins. The test requires further study before it can replace present criteria of the need for further treatment.
A. J. R.

KERATOSIS BLENORRHAGICA SUCCESSFULLY TREATED WITH CORTICOTROPIN (ACTH). R. M. Myerson and L. Katzenstein. (1952) *J. Amer. med. Ass.*, **149**, 838.

A man aged 36 with keratosis blennorrhagica that failed to respond to antibiotics showed prompt and lasting improvement with ACTH. Cortisone induced euphoria and improvement of the joint lesions only.
A. J. R.

LOCAL SHIFTING OF BLOOD IN THE LOWER EXTREMITIES. H. L. Reese, M. L. Cullen and F. D. Beyer. (1952) *J. Amer. med. Ass.*, **149**, 821.

Using Kety's method of measuring calf muscle circulation by the clearance of radioactive sodium the authors showed that increased skin blood-flow produced by direct heat or intravenous priscoline was followed by reduced calf muscle circulation. When circulation in the anterior leg muscles was increased by exercise the circulation in the antagonistic calf muscles was reduced. Local shifting of blood thus occurs between skin and muscles and between muscle groups.
A. J. R.

SARCOID DIAGNOSED BY NEEDLE BIOPSY OF THE SPLEEN. M. Block. (1952) *J. Amer. med. Ass.*, **149**, 748.

A case is reported in which the diagnosis of sarcoidosis was established by needle biopsy of the spleen. The technique is considered not to be more difficult nor more dangerous than liver biopsy.
A. J. R.

FATAL APLASTIC ANAEMIA ASSOCIATED WITH CHLORAMPHENICOL (CHLOROMYCETIN) THERAPY. D. B. Claudon and A. A. Holbrook. (1952) *J. Amer. med. Ass.*, **149**, 912.

In 1949 Smadel suggested that on account of its nitro group chloramphenicol might prove toxic for the haemopoietic system, and the first clinical reports of marrow depression appeared in the same year. Two cases are now reported of fatal aplastic anaemia in elderly patients.

A. J. R.

FATAL APLASTIC ANAEMIA FOLLOWING CHLORAMPHENICOL (CHLOROMYCETIN) ADMINISTRATION. R. K. Smiley, G. E. Cartwright and M. M. Wintrobe. (1952) *J. Amer. med. Ass.*, **149**, 914.

Three more cases of fatal aplastic anaemia are reported, and the suggestion is made that chloramphenicol should be prescribed only for those infections which in themselves or by their complications endanger the life of the patient, and in which this antibiotic has been shown to be particularly effective.

A. J. R.

FATAL APLASTIC ANAEMIA IN CHILDREN FOLLOWING CHLORAMPHENICOL (CHLOROMYCETIN) THERAPY. P. Sturgeon. (1952) *J. Amer. med. Ass.*, **149**, 918.

Four fatal cases of aplastic anaemia in children who had received small doses of chloramphenicol on previous occasions for minor infections. In 3 other cases, 2 of them fatal, there was no history of previous administration of chloramphenicol. Two further fatal cases are mentioned in an addendum.

A. J. R.

CORTICOTROPIN (ACTH) AND CORTISONE IN IDIOPATHIC THROMBOCYTOPENIC PURPURA. M. Stefanini, E. P. Santiago, J. B. Chatterjea, W. Dameshek and L. Salomon. (1952) *J. Amer. med. Ass.*, **149**, 647.

Fifteen patients with idiopathic thrombocytopenic purpura were treated with ACTH or cortisone. No permanent remission of the disease was observed, but the hormones reduced the spontaneous bleeding, improved capillary fragility and shortened the bleeding time. Cortisone and ACTH are therefore indicated to control severe bleeding, before splenectomy to control blood loss at operation, or if splenectomy has been unsuccessful and spontaneous bleeding continues.

A. J. R.

THE TREATMENT OF LUPUS ERYTHEMATOSUS WITH CALCIUM PANTOTHENATE AND PANTHENOL. T. Cochrane and G. Leslie. (1952) *J. invest. Derm.*, **18**, 365.

Flatly contradicts the favourable reports of L. Goldman (1948 and 1950). J. H. T. D.

A COLORIMETRIC ASSAY OF DERMATOPHYTE GROWTH IN BROTH CULTURE. C. L. Taschdjian. (1952) *J. invest. Derm.*, **18**, 369.

The brown discoloration of media, autoclaved after fungus has been growing in them, is the effect of ammonia, heat, and pressure on the sugar. J. H. T. D.

PRANTAL IN DERMATOLOGY. L. M. Nelson. (1952) *J. invest. Derm.*, **18**, 373.

Here once more are Banthine and Prantal, twin genii of the stream. This time 50 miscellaneous psychosomatics—a fair cross-section of present-day dermatological practice—are submitted without much benefit. J. H. T. D.

MECHANICAL SEPARATION OF THE EPIDERMIS FROM THE CORIUM. E. J. Van Scott. (1952) *J. invest. Derm.*, **18**, 377.

If a strip of skin not more than about 1·5 cm. wide is stretched to about twice its original length the epidermis peels off easily enough without any additional preparation. The method works equally well with fresh skin or with skin that has been stored in the refrigerator.

J. H. T. D.

THE EOSINOPHILIC RESPONSE IN NORMAL SUBJECTS FOLLOWING THE INUNCTION OF CORTISONE OINTMENT. J. L. Danto and S. Maddin. (1952) *J. invest. Derm.*, **18**, 381.

There is none; so presumably the hormone fails to penetrate. J. H. T. D.

THE TREATMENT OF VITILIGO WITH AMMI MAJUS LINN. E. Sidi and J. Bourgeois-Gavardin. (1952) *J. invest. Derm.*, **18**, 391.

The Egyptians have treated vitiligo for the last 500 years with a powder prepared from the fruit of this umbelliferous plant which grows on the banks of the Nile. The foliage, its colour and markings, if any, are not described in this paper. The powder proved to be far too drastic for the delicate Parisian stomach, so it was decided to extract the pure crystalline active repigmentatory principle. There were two of them as it happened and they have been named Ammidin and Ammoidin. Every one of the 6 patients treated with a judicious mixture of these furocoumarines responded to some extent—though none of them were cured—and spontaneous repigmentation in vitiligo is not often witnessed by the dermatologist, certainly never at his instance. These results, which are carefully, frankly and adequately described, are worthy of careful study, but perhaps from an entirely different aspect. J. H. T. D.

A STUDY OF THE DIAGNOSTIC VALUE OF THE B.C.G. VACCINATION REACTION. E. T. Bernstein and H. J. Spoor. (1952) *J. invest. Derm.*, **18**, 385.

B.C.G. vaccination is supposed to produce a banal inflammatory reaction in both natively anergic and normergic individuals, and a sarcoid-like lesion in the positively anergic. This is more or less confirmed ; but it is noted that there is also an element of foreign-body granuloma to complicate the histological picture. J. H. T. D.

STUDIES ON SWEATING. V : STUDIES OF QUANTITY AND DISTRIBUTION OF THERMOGENIC SWEAT DELIVERY TO THE SKIN. F. Herrmann, P. H. Prose and M. B. Sulzberger. (1952) *J. invest. Derm.*, **18**, 71.

Using the bromphenol-blue sweat-print method 30 healthy males and 10 females were investigated for the purpose of finding out basic physiological data for use in future research.

The great differences between the sexes in sweating performance demonstrated by Rothman and Kahn (1942) in their work with acetyl-choline is here corroborated. It is also shown that each individual's sweat distribution, which was 20% asymmetrical, remains constant.

The authors have not got as far as making a neat little map of the cutaneous rainfall but they may have paved the way for it. But the method does not deal with total quantities of sweat secreted by a certain area of skin in a given time so much as with the rate of secretion at a given moment, and may not therefore be quite suitable for this purpose. The method of selecting the right moment—just so long after the onset of sweating but before the confluence of visible droplets—seems unsatisfactory to the reviewer, who has not always been able to appreciate the disadvantages of more direct methods of sweat collection and measurement.

Several interesting clinical points emerge from this study. Compensatory hypersecretion takes place around large scars, patches of psoriasis, blisters, etc. Thermal sweating of the palms is an abnormality characteristic of patients with dysidrosis. J. H. T. D.

PSORIASIS TREATED BY RIBOFLAVIN. M. T. R. Maynard. (1952) *J. invest. Derm.*, **18**, 305.

This work was based on an observation that " many psoriasiform eruptions clinically typical " disappeared in patients under treatment for riboflavine deficiency, but the author does not distinguish in his figures between the results in cases of riboflavine deficiency and those in the normally nourished.

Although riboflavine deficiency is almost unknown in the U.K., there was a fashion at one time for exhibiting the vitamin, and success in such a widely distributed malady as psoriasis could hardly have passed unnoticed. But with the example of mepacrine and the precept of R. L. Stevenson's fable before us, we should not lightly dismiss the claims of any yellow dye.

J. H. T. D.

THE INSECT-BITE REACTION. L. Goldman, P. Johnson and J. Ramsey. (1952) *J. invest. Derm.*, **18**, 403.

A miscellaneous collection of observations concerning the act of biting on the part of various arthropods : a description of difficulties still to be overcome, and points for future study rather than a systematic account of the subject.

By cutting off parts of the insect it was shown that " for successful penetration of the skin, both the piercing parts and the food channel must be present." Also the stupid insects refused to feed on skin rendered translucent by aniline oil, though one had her photograph taken drinking blood out of a saucer with a bit of dead skin stretched over the top. A hypospray charged with cortisone was, needless to say, greatly superior to the blue-bag. J. H. T. D.

BIOLOGICAL ASSAY OF THE EXIT DOSE IN DERMATOLOGIC ROENTGEN THERAPY. H. M. Buley and M. H. Kulwin. (1952) *J. invest. Derm.*, **18**, 397.

The roentgen is simply a unit of radiation absorbed, regardless of whether we are dealing with animal tissues or the air in the Victoreen, and it produces its effects visible or otherwise by ionisation.

Therefore if the Victoreen registers so many roentgens we may take it that had the skin in contact with it also been a Victoreen, then except that it was a little nearer to the source it would have registered the same number of roentgens. One cannot help feeling that if the above is not much worse than an over-simplification, then this paper should have seemed unnecessary even to the authors.

Now it takes 500 r to turn a mouse's hair grey, and this is shown to constitute an accurate standard of measurement. It is thus possible to show that, with mice 1·5 cm. in diameter, the exit dose is a certain fraction, say 70%, of the entering dose. But we are assured that the radiation absorbed by the trunk of the mouse is not of course 100% less 70%, so much as the sum of the radiation absorbed by each and every particle in the animal.

Reference to the opening paragraph of the review should reassure the reader that it is once more just the radiologists who, having made a great dust themselves, cannot see. J. H. T. D.

TREATMENT OF SEVERE RHUS DERMATITIS WITH CORTICOTROPINE OR CORTISONE. M. S. Falk, M. F. Allende and J. H. Bennett. (1952) *J. invest. Derm.*, **18**, 307.

Duration of hospitalization of severe rhus dermatitis is reduced from 6 to 3 days by cortisone : and a strong clinical impression is received that it does good. J. H. T. D.

FAILURE OF PYROMEN TO AFFECT THE DEVELOPMENT OF AN ECZEMATOUS SENSITIZATION IN THE GUINEA-PIG. A. Rostenburg. (1952) *J. invest. Derm.*, **18**, 311.

Pyromen is a substance of bacterial origin intended to be given intravenously for the purpose of producing therapeutic fever. It has been praised also as a remedy for asthma-prurigo and food allergy. It does not, however, prevent guinea-pigs from suffering the consequences of experiment with 2:4 dinitrochlorbenzene. J. H. T. D.

THE OCCURRENCE OF A PLEUROPNEUMONIA-LIKE ORGANISM IN FUSOSPIRILLARY INFECTIONS OF THE HUMAN GENITAL MUCOSA. M. Ruiter and H. M. M. Wentholt. (1952) *J. invest. Derm.*, **18**, 313.

Two more cases of ulcerative balanitis from which such an organism has been isolated. So far no member of this group has been proved pathogenic to man, but we live in hope. J. H. T. D.

THERAPY OF EARLY SYPHILIS WITH PENICILLIN ADMINISTERED BY JET INJECTION. A. L. Weiner, R. H. Preston and W. Snyder. (1952). *J. invest. Derm.*, **18**, 327.

This was only to make sure that the penicillin really got there, and did not merely disappear in a mysterious cloud of vapour up the operator's sleeve.

There are no advantages except perhaps in the case of an unsuspecting patient who has been at pains to justify his refusal of treatment on the ground that he doesn't approve of needles. J. H. T. D.

STUDIES ON THE CHEMISTRY OF HUMAN PERSPIRATION, WITH ESPECIAL REFERENCE TO ITS LACTIC ACID CONTENT. F. M. Thurman and B. Ottenstein. (1952) *J. invest. Derm.*, **18**, 333.

An *in vitro* assay of pH, lactic acid, and non-protein nitrogen in sweat derived from males and females with and without acne.

The composition of sweat can be modified by means of ion-exchange resins. This may have importance in the treatment of bromidrosis. J. H. T. D.

AN EVALUATION OF THE BISMUTH BLUE-LINE. H. M. Robinson. (1952) *J. invest. Derm.*, **18**, 341.

Whether there is a blue line or not, the same sort of deposit can be detected in appropriately prepared sections of the gums of all patients taking bismuth. That it is bismuth is not quite certain, because the spectroscope has occasionally failed to confirm its presence.

There were more blue lines in patients with neglected than with healthy teeth : but examples of the blue line in edentulous gums or on the palate, and its absence from some pretty sulphurous maws open its significance to further speculation. J. H. T. D.

SOME PROPERTIES OF THE SWEAT-DUCTS AS OBSERVED IN DISEASE. I : THE CUTICLE. J. H. O'Brien. (1952) *J. invest. Derm.*, **18**, 473.

The sweat duct between the epidermodermal junction and the secretory part of the gland is lined with a cuticle which may simply be non-cellular membrane or a specialized part of the innermost lining of cells analogous to—though its staining properties show it to be quite different from —the horny layer of the covering epithelium. It is suggested here that it may be an individual layer of flat specialized cells. In any case it appears to have considerable elasticity and strength.

Rupture of the sweat duct usually takes place as close to the outlet as circumstances permit. When the obstacle is at the pore, extravasation takes place into the horny layer. When the obstruction involves the whole of the keratin ring, then rupture will take place where keratin and cuticle overlap—at the epidermidermal line. J. H. T. D.

NUTRITIONAL STUDIES OF THE DERMATOPHYTES WITH SPECIAL REFERENCE TO TR. MEGNINI (BLANCHARD 1896) AND TR. GALLINAE (MEGNINI 1881) COMB. NOV. M. Silva and R. W. Benham. (1952) *J. invest. Derm.*, **18**, 453.

Nobody who doesn't know what *Comb. Nov.* stands for, should read this paper, which is intended solely for the mycologist.

It describes the technique and the results of a method of distinguishing between species of ringworm fungi, by determining their nutritional requirements for growth and characteristic pigment production and their ability to synthesize protein from inorganic sources of nitrogen.

J. H. T. D.

THE TREATMENT OF MONILIA (CANDIDA ALBICANS) INFECTIONS WITH CARBOWAX SULPHUR OINTMENT. J. G. Hopkins, J. T. Weld and B. M. Kester. (1952) *J. invest. Derm.*, **18**, 419.

1% sublimed sulphur in carbowax was tried in 35 cases of monilia infections of various kinds. If the results seem worth reporting then it is evident that the infection must be generally regarded as a refractory one.

In vitro, on the other hand, carbowax-sulphur added to media even in dilutions as low as 1 : 200,000 inhibited growth. J. H. T. D.

CUTANEOUS SENSORY THRESHOLD STIMULATION WITH HIGH-FREQUENCY SQUARE-WAVE CURRENT. I : THE RELATIONSHIP OF ELECTRONIC DIMENSIONS TO THE SENSORY THRESHOLD, and II : THE RELATIONSHIP OF BODY SITE AND OF SKIN DISEASES TO THE SENSORY THRESHOLD. H. Sigel. (1950) *J. invest. Derm.*, **18**, 441 and 447.

The unit for cutaneous appreciation of pain may be thought of as an extremely sensitive point surrounded by an area ranging between 3 and 15 mm. in diameter which is relatively insensitive. If the skin is regarded as a mosaic of unequal areas it will be appreciated that an electrode big enough to average a summated stimulus of a number of them must be more reliable than one which may either fail to include any sensitive point at all or else cover an adventitious grouping of several. This is the theoretical basis for having arrived at a size of 2 sq. in. by trial and error.

Some parts of the body are more susceptible to painful electrical stimulation than others. Pain thresholds, if at all altered by disease, tend to be raised. J. H. T. D.

FACTORS WHICH INFLUENCE THE WATER CONTENT OF THE STRATUM CORNEUM. I. H. Blank. (1952) *J. invest. Derm.*, **18**, 433.

The stratum corneum remains supple as long as it contains 10% of moisture. Oil has no effect on it once it is dry. A state of equilibrium with the surrounding air similar to that known to exist in woollen materials (16%) is consistent in temperate climates with a relative humidity of 60% or higher. The low humidity condition of winter weather heated houses and the drying effect of wind desiccate the horny layer with effects that are familiar to all.

Water reaches the horny layer in the form of sweat or by diffusion of the moisture from the underlying tissues. It is shown here how rapidly keratin can lose or gain water from the air,

and the existence must be assumed of some barrier, the nature of which is not mooted, limiting the transfer of water from the rete to the horny layer. Degreasing the surface makes little difference to the rate of loss.

The experimental work and arguments used to support these and many other interesting conclusions are set out most clearly and can be studied with enjoyment. J. H. T. D.

CONCOMITANT BONE CHANGES IN URTICARIA PIGMENTOSA. F. Sagher, C. Cohen and S. Schow. (1952) *J. invest. Derm.*, **18**, 425.

A man of 55 with a generalized eruption, oddly confluent on the feet, of erectile macules containing mast-cells was found to have skiagrammatical bony changes. Sternal puncture failed to reveal mast-cells and further osteomyeloscopy was refused. The case has served as a pretext for the supply of incredible information about heparin, etc. J. H. T. D.

TWO CASES OF PREVENTION AND TREATMENT OF "LEPRA REACTION" BY CORTISONE. E. C. del Pozo and A. G. Ochoa. (1952) *J. invest. Derm.*, **18**, 423.

Severe lepra reactions contraindicate and interfere generally with the employment of sulphones. In two patients cortisone was found to suppress them. The general influences of cortisone on the relationship between the lepra bacillus and host are not yet known. J. H. T. D.

THE ASSESSMENT OF KNUCKLE-PAD-LIKE CHANGES IN KERATODERMA PALMARE ET PLANTARE. Th. Trinkaus. (1952) *Derm. Wschr.*, **126**, 879.

A child aged 7 suffered from well-marked keratoderma palmare et plantare since the age of 18 months. The affected areas were hyperidrotic and bordered by a narrow lilac zone. The condition was familial. On the dorsal surface of the distal and middle phalangeal joints of all the fingers were sharply circumscribed yellowish oval faintly scaly nodules coalescing with the normal skin; a surrounding lilac zone was absent. They were reminiscent of knuckle pads. Histological examination of a nodule showed massive hyperkeratosis without parakeratosis and a granular layer 6–8 cells thick. There was a quite slight perivascular exudate in the uppermost dermis. The picture was that of excessively severe hyperkeratosis not in keeping with knuckle pads but with a keratoma palmare, and the author had decided to call the condition keratoma palmare et plantare hereditarium transgrediens. M. S. S.

HEALING WITHOUT RELAPSE OF A PITYRIASIS VERSICOLOR. E. Brune. (1952) *Derm. Wschr.*, **126**, 883.

The author had suffered from intractable pityriasis versicolor for 17 years which recurred each summer in spite of all treatment and apparent cure. Finally he used phebrocon-serol well smeared in for 1–2 minutes daily with the palm of the hand, a clean simple remedy. After 8 days he was well apart from a small area which he treated vigorously with phebrocon lotion (having no more serol) until the part became red with petechial haemorrhages. After 4 more days he was well and after a year had had no further relapse. He considers the serol base to be important; it is a hydrophil colloid with good capillary activity, and reaches the fungus in the mouth of the follicles, thereby preventing relapse. The active constituents of phebrocon are dioxyphenylhexan and chlormethylisopropylphenol; the latter is considered by some to be the most active fungicide of the phenol series. M. S. S.

pH MEASUREMENTS IN ULCERA CRURIS OF VARIOUS ORIGINS. K. Hoppe. (1952) *Derm. Wschr.*, **126**, 905.

The author first comments on the good effect of supporting plastic bandages in the treatment of ulcers and other lesions of the lower leg, e.g., Bazin's disease and perniosis; he then confines his remarks to the surface of a leg ulcer and its pH. In his series of 35 patients the pH was found to be highest (7·7–7·9) with a fresh red surface—the most rapidly healing; lower when the surface was dirty (7·3–7·6), and lowest in the presence of a thick fibrinous covering (7·0–7·2) often over a crater. He employed the Folien-colorimeter (Wulff-Lauten Schläger), inexpensive and simple to use, and describes his technique. As the ulcers healed and became clean with bandages the pH rose; he wonders if one could hasten healing by supplying a medium of optimum pH. M. S. S.

SYMPOSIUM ON THE SWEAT APPARATUS.

SOME HISTOPATHOLOGICAL ASPECTS OF DISTURBANCES OF SWEATING. Arthur B. Hyman. (1952) *Arch. Derm. Syph., Chicago,* 66, 145.

RECENT DEVELOPMENTS IN THE PHYSIOLOGY OF THE SWEAT APPARATUS. Walter C. Lobitz, jun. (1952) *Arch. Derm. Syph., Chicago,* 66, 152.

METHODS OF EXPLORING HUMAN APOCRINE SWEAT GLAND PHYSIOLOGY. Walter B. Shelley and Harry J. Hurley, jun. (1952) *Arch. Derm. Syph., Chicago,* 66, 156.

SOME ASPECTS OF THERAPY OF SWEAT DISTURBANCES. Franz Herrmann and Marion B. Sulzberger. (1952) *Arch. Derm. Syph., Chicago,* 66, 162.

The four papers in this symposium, which gives an excellent summation and summary of our knowledge of the sweat apparatus, are considered together.

1. Mechanical occlusion of the ostia of the eccrine glands is an essential factor in sweat retention disturbances, whether naturally or experimentally produced. Such disturbances may occur in a variety of diseases, such as dermatitis due to mepacrine or heavy metals, ichthyosis, or in disturbed vitamin A metabolism, as well as in sudamina, miliaria rubra and tropical anidrosis and asthenia. O'Brien has stressed the importance of the keratin ring at the mouth of the duct and of staphylococcal infection in producing this occlusion. In minor degrees of disturbance the sweat is reabsorbed, but if the disturbance is greater the duct ruptures, usually at the dermo-epidermal junction. Refinement in histological technique has demonstrated the electro-negativity of the intra-epidermal portion of the sweat duct, differences in the alkaline phosphatase activity of different parts of the sweat apparatus, differences between various parts of both eccrine and apocrine apparatus and even between various parts of certain cells as to glycogen, Schiff-reactive, diastase-resistant material and lipid content, and the participation of the myo-epithelium in secretion. The functional activity of sweat apparatus cells can be tested.

2. Cholinergic drugs excite eccrine sweat, but while anti-cholinergic drugs reduce eccrine sweat they cannot produce complete anidrosis. There is a periodicity in sweat secretion except under extreme excitation. Both frequency and amplitude of these pulses are damped at very high levels of evaporation. There are also noted peaks and depressions in the number of glands functioning. The preliminary response to mild exercise is an increase in the number of active glands ; as stimulus increases so the output of individual glands increases. Prolonged secretory activity leads to complete disappearance of glycogen from the acinar cells. On the other hand, fats, sulphydryl groups, desoxyribosenucleic acid and alkaline and acid phosphatase are unaffected. It is suggested that the coil portion acts as a selective secretor and that duct or coil or both reabsorb water. Among the complicated factors affecting sweat electrolyte concentrations is determination of " sweat-chloride-rate index " by an adrenal cortex hormone.

3. Apocrine sweat may be directly examined by catheterizing the duct with a capillary tube. It is milky in appearance, and leaves a residue on drying which has a distinctive sheen in Wood's light. Ferric iron can be demonstrated in it. Eccrine sweat can be inhibited by local injection of atropine ; filter-paper applied to the area and examined under Wood's light or the starch-paper-iodine technique can be used. Other methods of studying the gland and its secretion are under trial.

4. Treatment of hypo- or anidrosis is best undertaken by removing the patient to a suitable environment where possible. Exposure to dry heat for a controlled period daily may help ; vitamin A, hormones where imbalance is suspected, restriction of sodium intake in serious cases may all be useful. Topical applications of autonomic nervous system stimulators have limited value ; hydrophilic fats may be used, or peeling, for instance with salicylic acid. In hyperidrosis new anticholingergic drugs such as methantheline have been recommended. General sedatives, antihistamines, x rays, astringents and electro-positive agents such as lithium iodide have all been used. The many proprietary creams for reducing axillary perspiration appear to act by damaging the eccrine ducts and the apocrine acini. The latter are the more easily affected, hence these preparations are more effective and less harmful in these sites.

Dysidrosis of the intertriginous areas is dealt with. Dry heat and promotion of free evaporation, ventilated footwear, measures to combat mycotic or other secondary infections are all of value.

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